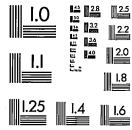
MILLIMETERS

MICROCOPY RESOLUTION TEST CHART

(ANSI and ISO TEST CHART No. 2)



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14:1

Thomas A. Edison Papers

A SELECTIVE MICROFILM EDITION

PART IV
(1899–1910)

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START

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A Note on the Sources

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Notebook, N-07-08-05

07-09-05

August 5, 1907.

Inches, Set #1.

53.98	5410
99	11
5400	12
5401	5413
02	14
03	15
5404	5416
05	17
06	18
5407	5419
08	20
09	21

Continued from Vol. 1.

A

	Time	Amps	5408	5409	5409	5410	5410	5408	5405	5406	5407	5408	5409	5410	5411	5412	5416	5417	5418	5419	5420	5421
Change # 211	6:30 AM	200				Change			5 hrs @ 200													
8/5/07	11:30	"	149	148	150	150	147	149	149	150	149.5	150	150	150	149	149	149	148.5	147	150	149	149
Discharge #211	11:35	150	143	149	146	147	147	147	147	145.5	145	144	147	146.5	145	145	146.5	145	145	145	147	148
8/5/07	:39	"	143	143.5	141	142	143	143.5	143	143	144	144	143	142.5	141	144	144.5	144	143	144	143	144
	:45	"	141	141	139	140	141	140	140.5	140	141	139.5	140	139	142	142	142	141	142	142	135	142
	:55	"	139	139	137	138.5	138	138	139	138	139	138	138	138.5	140	140	140	138	140	140	137	140
	12:15	"	136	136	134	134	135	135	135	135.5	135	135	133	137	137	137	137	135	136.5	137	137	137
60	:35	"	134	134	132	132	133	132	133	134	134	133	133	131	135	135	135	133	135	135	114	135
	:55	"	132	132	130	130	131	130.5	131	131.5	131	131	130	134	134	134	134	131.5	132	134	109	134
	1:15	"	131	131	129	129	129.5	129	130	131.5	130	130	128	132	133	133.5	132	130	132	133	109	133
120	:35	"	129.5	130	127	127	128	128	128.5	128.5	128	128	127	132	132	132	132	129	131	132	109	132
	:55	"	128	128	125.5	126	126.5	126	127	127	127	127	126	130	131	130.5	128	130	130.5	129	109	131
	2:15	"	126	127	125.5	125	125.5	125	125	126	126	125	124.5	129	129.5	129	127	129	129.5	129	109	130
180	:35	"	124	124.5	124.5	124	123	123	125	126	126	123	123	125.5	128	128	125	127	129	129	109	128.5
200	:55	"	124.5	122	118	122	120	124.5	125	125	125	120	121	126	126	126	124	125	129	129	109	127
201	:50	"								100												
210	3:05	"	119	120.5	113	121	116	120	122	122	122	120	115	120	124	125	125	122	124	126	106	126
219	:14	"			100																	
229	:15	"	116	118		120	110	119	121	122	122	119	106	118	122	124	124	121	122	125	106	125
229	:19	"					100															
225	:30	"											100									
230	:35	"	102.5	112		118		117	119	119	119		113	116	120	121	122	118	120	123	105	124
232	:39	"	100																			
233	:45	"		100																		
237	:52	"																				
240	:35	"				115		102	114	114			100		109	115	117	120	114	116	120	124
242	:37	"						100														
249	:43	"								100					100							
250	:45	"				110			103	113					100	106	110	115	107	107	116	122
257	:46	"							99													
255	:48	"														100				100		
256	:51	"				100																
255	:54	"																	100			
254	:57	"															100				100	

	TIME	RATE	5398	5399	5400	5401	5402	5403		5404	5405	5406	5407	5408	5409	5410	5411	5412	5413	5414	5415	5416	5417	5418	5419	5420	5421	
159½	3.15½	1.50									.100																	158
160	.55	"																										160
161	.56	"																		102.5				109.5		112		162
162	4.02	"																		.100						100		163
162½	.03½	"																						100				164
Change # 212	6.50	200	154	155	158	159	158	159½		158	160	158	162	159	160½	158	157	157	159½	159½	155	159	157					
8/6/05	.54	"	162	162	164	164	164	166½		163	165½	163	164	166½	163	162½	161	162	164	162	164	166½	161	163½	163	163		
	7.00	"	165	167	167	166½	166	165½		166	165	165	163½	168	166	168	164	164	164	164	164	163½	165½	163	163	163		
X-5 lbs @ 200	.10	"	166	166	168	168	165½	166½		167	166½	166	165	167	168	169	166	166	165½	166	166½	165	165	165	165	165		
	.20	"	168	168	170	170½	170	171		170	172	169	172	170	170	170	168	168	168	168	168	168½	167	168½	167	167		
	.50	"	168	168½	170	172	170	171		170	170	169½	171	170	170	170	168	168	168	170	168½	167	166	167	167	167		
	8.10	"	169	169	169	169½	170	170		169	171	169	171	170½	169	172	168	168	168	170	169.5	167	154	167				
	.30	"	169	169	169	171	169½	170		169½	169½	168	170	169½	169.5	172	167	167	167.5	170	169	166	159	166½				
	.50	"	169	169.5	169	171	169	170		169	169.5	168	170	170	169	171	167	167	167	170	169.5	166	162	166.5				
	9.10	"	169	169.5	169.5	171	169½	170		169½	169	169	170	170	169	171	167	167	167.5	170	169	166½	166	166.5				
	.30	"	169	169.5	170	171	169½	170		169	169	169	170	170	170	171	167	167.5	168	170	169	167	169	167				
	.50	"	169	169.5	170	171	169	170		169	169	168	170	170	170	171	167.5	168.5	169	170	169	169½	169	167				
	10.10	"	169	169.5	170.5	171	169	170		169	169	168	170	170	170.5	171	169	168	168	170	169	170	169	167				
	.30	"	169	169	170	171	169.5	170		169	169	169	171	170	170	172	170	169	168.5	169.5	169	170	169½	169				
	.50	"	169	169	170	171	169	170		170	169	169	170	170	170	170	169	169	168.5	169	169	170	169	169				
	11.10	"	169.5	169	170	170	169	169.5		170	169	169	170	170	170	170	169	169	169	169	169	170	169	169.5				
	.30	"	169.5	169	170	170	169	170		170	169	169	170	170	170	170	169	169.5	169	169.5	169	170	169	169.5				
5 lbs. @ 200 m.a.	.50	"	169	169	170	170	169	170		170	170	169	170	170	170	170	169	168.5	169	169	169	169	169	169				
			(Discharge Over)																									

D

	Time	Amps	5398	5399	5400	5401	5402	5403	5404	5405	5406	5407	5408	5409	5410	5411	5412	5413	5414	5415	5416	5417	5418	5419	5420	5421	
Discharge #212	min																										
8/6/07	11.55	150	149	149	146	147	147	147	147	147	144	147	147	144	147	149	149	147	147	147	147	143	147	147	147	147	147
	.59	"	143	144	141	142	142	142	143	143	144	146	143	143	141	148	146.5	144	143.5	144	144	139	144	144	144	144	144
X-5 lun @ 200	12.05	"	141	141	139	140	141	140	140	140	147	137	140	140	139	142	142	142	141	142	142	136	142	142	142	142	142
	.15	"	139	139	137	135	138.5	138	139	139	139	135	138	138	136	140	140	140	139	140	140	136.5	140	140	140	140	140
	.35	"	136	136.5	134	134	135.5	135	135	135	135	135.5	136	133	137	137	137.5	135	137	137	139	137	137	137	137.5	137	137
40	.55	"	134	134.5	132	132	133	132	132.5	132.5	132.5	132	133	133	131	135	136	136	133	135	135.5	132	132	132	132	132	136
	1.15	"	132	133	130	130	131	130.5	131	131	133	133	131.5	129	134	134	134	131	133.5	134	131	128	130	130	130	130	134
	.35	"	131	131.5	129	129	130	130	130	130	132	134	130	129	133	133	133	130	132	133	133	129	131	131	131	131	133
120	.55	"	130	130	129.5	129	128	128.5	129	129	130	134	129	129	132	132	132	129	131	132	131	128	130	131	131	131	132
	2.15	"	128.5	129	126	127	127	127	129	129.5	129.5	133.5	129	129.5	128.5	128.5	131	131	128	130	131	111	131	131	131	131	131
	.35	"	127	127	124	125	125	126	126.5	126	129	130	126	126	124	130	130	130	127	129	130	111	130	130	130	130	130
190	.55	"	125	125.5	122	124	123	124	125	125	126.5	129.5	124	124	123	128	129	129	126	129.5	129	110.5	129	129	129	129	129
	3.15	"	123	123	119	122	120	123	124	123	125	123	123	121	121	126	127	126.5	124	126	126.5	110	127	127	127	127	127
200	.15	"										100															
205	.33	"			100																						
225	.37	"	114	118		120	109	117	121	121	122		119	123	117	122.5	124	124	121	122	122.5	108	122.5	122.5	122.5	122.5	122.5
225	.39	"												100													
225	.40	"					100																				
232	.45	"	98	101		118		110	119	120	119		117		114	119	123	122	119	120	123	109	124	124	124	124	124
232	.45	"		100																							
240	.55	"				116		103	116	117	114		100		106	115	119	120	114	116	121	106	123	123	123	123	123
242	.57	"						100																			
244	.59	"										100			100												
248	4.03	"																									
250	.05	"					105.5			99.7	114					103	112	113	105	105	116	103	119	119	119	119	119
252	.07	"														100				100							
255	.10	"					100																				
255	.11	"																	100								
255	.13	"															100										
260	.15	"																					109	100	113		
261	.16	"					105.5																				
263	.18	"															100										
268	.23	"																					100				
269	.24	"																								100	

D.

	Time	Amp	5438	5439	5440	5441	5442	5443	5444	5445	5446	5447	5448	5449	5450	5451	5452	5453	5454	5455	5456	5457	5458	5459	5460	5461	5462	5463	5464	5465	5466	5467	5468	5469	5470	5471	
Change # 213.	7.45 am	250	on change for						4 hrs. @ 250 m-s.																												
8/7/07	11.45	"	169	168	170	170	167	166	168	170	170	170	170	171	168	169	169	169	168	169	167	169															
Discharge # 213.	11.50	150	146	149	146	147	147	147	146	147	145.5	147	146	146	144	147	147	147	146.5	147	147	147															
8/7/07	.54	"	142	142	140	141	142	140.5	140	141	143	139	141	141	139	142	142.5	140.5	140.5	143	143	139															
	12.00	"	140	140	139.5	140	140	139.5	140	140	140.5	137	140	139.5	138	140.5	140.5	140.5	139.5	141	141	136															
	.10	"	138.5	139	137	137	139	139	138	138	139	135	138	138	135.5	139.5	140	140	138	139.5	140	135.5															
	.30	"	136	136.5	134	134	135.5	135	135	135	136.5	132	136	136	132	137	137	139.5	135	137	137	135															
40	.50	"	134.5	134.5	132	132	133	133	133	133	134.5	130	133	133.5	130	136	136	136	133	135	136	134															
	1.10	"	133	133	130.5	130	131	131	131	131	133	129.5	132	132	128	134	134	134.5	131	134	134	133															
	.30	"	131	132	129	129	129	130	130	130	131	129	130	130	127	133	133	133	129	132.5	133	133															
120	.50	"	130	130	129	129	129	129	129	129	131	129	129	129	125.5	132	132	132	129	131	132	133															
	2.10	"	129	129	129	126	126	127	129.5	129	130	129	129	129	124	129.5	131	131	129.5	130	131	133															
	.30	"	126	126.5	123	125	124	125	126	126	128	126	126	127	123	129	129	129.5	126	128	130	130															
190	.50	"	123	124	120	123	121	123	124	124	126	124	123	122	119	126.5	126	128	125	129	125	129															
1998	5.41	"											100																								
197	3.07	"		100																																	
200	.10	"	115	120		121	114	120	122	122	122.5		119	109	119	125	126	126	123	124.5	126	110	126.5														
208	.19	"												100																							
209	.17	"	100				100																														
210	.20	"		110		114		115	120.5	120.5	121		115		117	123	124	124	121	123	125	109	125.5														
212	.22	"		100																																	
219	.29	"												100																							
220	.30	"				116		105	119	119	117				113	120	121	122	118	120	123	106.5	124														
224	.34	"						100																													
230	.40	"				117			114	116	108				107	115	118	119	113	116	121	106	122														
234	.44	"									100																										
235	.45	"													100																						
235.5	.45.5	"							100																												
239	.49	"				100																															
240	.50	"								109						105	109	110	103	105.5	116	102	116.5														
241	.51	"																		100																	
243	.53	"														100																					
244	5.54	"																	100																		
244.5	5.54.5	"								100																											
245	.55	"																			100																

	TIME	AMPS	5398	5399	5400	5401	5402	5403	5404	5405	5406	5407	5408	5409	5410	5411	5412	5416	5417	5418	5419	5420	5421	
7-46	3.56	150																100						2-45 2-46
7-46½	4.06	"															100							
7-50	4.09	"																			108		169	
7-54½	1.05	"																					100	2-46 2-47
7-57	1.07	"																			100			
Charge #214	7.45	250	154	155	160	162	160	162	160	163	160	164	161	161.5	165	160	159	159	163	160	159	164	159	
8-8-07	.49	"	165	165	166	168	166	168	166	168	165	169	166	169	167	164	164	166	164	165	165	165	165	
	.55	"	166	166	166	169	167	168.5	167	170	166.5	170	167	169.5	171	166	165.5	165.5	167	166.5	166	166	166	
X-4 hrs @ 250	8.00	"	168	168	169.5	171	170	171.5	170	172	169	170.5	169	169.5	172	168	168	169.5	169	168	167	168	167	
	.25	"	169	168	170	172	170	172	170	172	170	172	170	170	172.5	169	168.5	169.5	170	168.5	168	168	167	
	.45	"	169	169	169.5	172	170	172	169.5	172	170	171	170	169	172	169	168	169	170	168.5	167	168	167.5	
	9.05	"	169	169	169	169.5	169	170	169	171	168	170	170	169	172	169	168	168.5	170	168	167	167	167.5	
	.25	"	169	169.5	169.5	171	168.5	169.5	169	171	168	170	169	169	173	169	167	167	170	168	168.5	167	167	
	.45	"	169	169.5	169	171	169	169	169.5	171	169.5	170	170	170	172.5	169	167	167	170	169	167	169	167	
	10.05	"	169	169.5	170	171	169.5	169	169.5	170	169.5	170	170	170	172	169	167	169.5	170	169.5	167	169	167	
	.25	"	169	169.5	170.5	172.5	169.5	169	169.5	170	169	170	171	172	172.5	169	169	169	170	169.5	169	169	169	
	.45	"	169	169.5	170.5	172.5	169	170	168	170	169	171	170	170.5	172.5	168	169	169.5	169.5	168	170	167	169	
	11.05	"	169	168	170.5	172	169.5	170	169	170	169.5	171	170	170	171	168	169	169.5	168	170	167	169	169	
	.25	"	169	168	170	170	169.5	170	169	170	169	170	170	170	171	168	169	169	167	169	167	169	169	
4 hrs @ 250 m-s	.45	"	169	169	169.5	170	169	170	169	170	169	170	170	170	171	168	169	169	169	168	169	167	168.5	
Discharge #214	11.50	150	145	145	146	146.5	146	147.5	147	147	148	147	146	146	147	145	148	148	146	147	148	147	148	
8/8/07	.54	"	143	143	144	143	142.5	143	147	142.5	144	140	142	143	139	144	144	144	143	144	144	139	146	
	12.00	"	141	141	139	140	141	144	140	140	141	139.5	140	140	137	143	143	143	141	143	143	136	143	
X-4 hrs @ 250	.10	"	139	139	137	137	138.5	138.5	139	139	139.5	137	138	139	135	140	140	140	139	140	140	133	140	

	Time	Amps	5398	5399	5400	5401	5402	5403	5404	5405	5406	5407	5408	5409	5410	5411	5412	5413	5414	5415	5416	5417	5418	5419	5420	5421	
	17.30	150	137	137	135	134	136	136	135.5	135	135	137	134	136	131	137	137.5	138	135	137	138	137	138	137	138	138	
60	.50	"	135	135	132	133	133	133	133	133	135	133	134	137	136	136	136	133	135	136	135	135	136	135	136	136	
	1.10	"	133	132	131	130	131	131	131	131	132	132	132	137	134	136.5	134.5	131	134	134	117	134.5					
	.30	"	132	132	129	129	130	130	130	130	132	134	130	130	126	133	133	133	130	133	133	133	133	133			
120	.50	"	130	130.5	129.5	129.5	129	128.5	129	129	131	134	134	129	134	132	132.5	132	129	132	132	114	132.5				
	2.10	"	128	129	125	126	126.5	127	129.5	129.5	128	127	127	127	133	131	131.5	131	128	130	131	114	131				
	.30	"	126	127	123	125	124.5	126	126	126	128	126	126	125	122	129	130	130	125	129	130	114	130				
181	.51	"	123	124	119.5	123	121	123	123.5	124	126	107	123	122	120	125.5	128	128	125	127	128	117	128				567
183	.53	"										96															
190	3.00	"	125	123	115	122	119	122	124	124	125		122	119	119	123	127	127	124	126	127	127	125				570
196	.06	"			100																						
201	.11	"	114	119.5		120	111	119	122	122	124		119	103	117	125	126	126	122.5	125	126	111	126				573
203	.13	"												100													575
206½	.16½	"					100																				578
207½	.17½	"	100																								
210	.20	"		110		119		114	121	121	122		115		115	123	125	125	121	123	125	110	126				580
211½	.21½	"		100																							582
218	.28	"											100														
220	.30	"				116		101	119	119	118				117	120	122	122	119	120	123	109	124				585
228½	.38½	"						100																			
230	.40	"				109			110	115	105				107	114	118	119	115	115	120	105	122				588
231½	.41½	"													100												590
232	.42	"									100																591
233½	.43½	"																									593
235½	.45½	"				100			100																		596
238	.48	"																		100							598
239½	.50½	"														100											601
241	.51	"								105							109	109	107		114	101	113				605
242	.52	"								100									100								607
243	.53	"																				100					610
244	.54	"																100									613
245½	1.55½	"														100											615
252	4.02	"																			100		104				624
253	.03	"																					100				627

B

	Time	Amp																																
Change #215.	8.00 AM	300																																
8/9/07	11.20	"	142	142	143	143	143	143	143		143	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143	
Direlange #215.	11.25	150	148	149	149	147	147	147		147	147	148	144	147	147	148	148	148	148	147	148	148	145	145	143	148								
8/9/07	.30	"	144	144	143	143	143	143		143	143	144	140	143	143	144	144.5	145	145	144	144.5	145	139	145										
	.35	"	141	142	140	140	141	140.5		140.5	140.5	142	138	140.5	141	137	142	142	142	141	142	142.5	136	140.5										
	.45	"	140	140	138	139	139	139		138.5	138.5	140	135.5	139	139	138.5	140	140	140.5	139	140	140.5	133	140.5										
	1.05	"	137	137	136	137	136	135.5		135	135	137	132	135.5	136	130	137	137	137.5	135	137	137.5	130	135										
160	.25	"	135	135	132	133	133	133		133	137	135	129	133	135	128	135	136	136	133	135	135.5	127	135.5										
	.45	"	133	133	131	130	131	131		131	131	133	127	131	132	126	134	134	134	131	133.5	134	125	133.5										
	1.05	"	130.5	132	129	129	130	130		129	130	132	125	130	130	124	133	133	133	130	132	133	123	133										
170	.25	"	129.5	130	129	127	129.5	129.5		128	128	131	123	128	129	122	132	132	132	129.5	131	132	119	132										
	.45	"	127	129	126	125.5	125.5	126		127	127	129	120	126	126	120	129	129.5	129	127	129.5	130	119.5	130										
	2.05	"	124	125.5	124	123	123.5	124		125	125	127	117	124	123	118	125.5	127	127	125.5	128	127	109	127										
166	.11	"											100																					-475
180	.25	"	118	121	120	121	115	121		123	123	125		120	123.5	116	127	127	127	123.5	126	127	109	127.5										-456
191	.33	"													100																			-470
190	.35	"	109	115		120	100	117		121.5	122	122.5		115		114	125	126	125.5	122	124.5	124	109	126										-475
190.5	.355	"	100																															-476
196	.41	"		100																														-490
200	.45	"				118		109		119.5	120	119		100		111	123	124	124	120	122.5	125	106	125										-500
204.5	.495	"						100																										-511
210	.55	"				113				115	116	120.5				106.5	119	124	124.5	116	119	123	104	124										-533
213	.58	"										108																						-543
217	3.02	"								100																								-545
218	.03	"														100																		-547
219	.04	"				100																												
220	.05	"									108						113	116	112	109	113	120	101	121										-557
222	.07	"																					100											-561
224.5	.09	"									100								100	100														-565
226	.11	"																			100													-571
227.5	.12	"															100																	-575
227	.14	"																100																-579
228	.17	"																					112											-583
230	.23	"																						100										-595
240	.45	"																					100											-600

Sub Total

	Time.	A.M.	5:00	5:01	5:02	5:03	5:04	5:05	5:06	5:07	5:08	5:09	5:10	5:11	5:12	5:13	5:14	5:15	5:16	5:17	5:18	5:19	5:20	5:21
Change #216	3.00	300	160	160	161	166	163	164	163	165	162	166	164	170	162	161	161	166	162	162	160	148	161	
8-10-07 Jeff	.04	"	167	167	168	170	171	168	168	167	170	169	168	169	167	167	167	168	166	166	166	148	166	
	.10	"	169	169	171	171	171	171	169	170	171	171	171	171	169	168	168	172	169	169	168	155	168	
X-3½ lbs. @ 300	.20	"	170	170	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	169	155	170	
	.40	"	170	170	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	170	165	170	
	4.00	"	170	170	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	169	169	169	
	.20	"	170	170	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	170	148	170	
	.40	"	170	170	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	170	170	170	
	5.00	"	170	170	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	170	170	170	
	.20	"	170	170	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	170	170	170	
	.40	"	170	170	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	170	170	170	
	6.00	"	170	170	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	170	170	170	
3½ lbs. @ 300	.20	"	170	170	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	170	170	170	
Wind change #216	6.25	150	148	148	148	148	148	148	148	148	148	148	148	148	148	148	148	148	148	148	148	142	148	
8-10-07 Jeff	.10	"	143	143	144	144	145	145	143	144	142	142	142	142	142	142	142	142	142	142	142	136	142	
	.35	"	141	141	139	140	141	141																
X-3½ lbs @ 300	.45	"	140	140	138	138	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	134	139	
	7.05	"	137	137	135	135	136	136	136	136	136	136	136	136	136	136	136	136	136	136	136	131	136	
	.25	"	135	135	133	133	134	134	134	134	134	134	134	134	134	134	134	134	134	134	134	128	134	
	.45	"	133	133	131	131	132	132	132	132	132	132	132	132	132	132	132	132	132	132	132	126	132	
	8.05	"	131	131	129	129	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	124	130	
	.25	"	129	129	127	127	128	128	128	128	128	128	128	128	128	128	128	128	128	128	128	122	128	
	.45	"	127	127	125	125	126	126	126	126	126	126	126	126	126	126	126	126	126	126	126	120	126	
	9.05	"	125	125	123	123	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124	118	124	
	.25	"	123	123	121	121	122	122	122	122	122	122	122	122	122	122	122	122	122	122	122	116	122	
	.45	"	121	121	119	119	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	114	120	
	10.05	"	119	119	117	117	118	118	118	118	118	118	118	118	118	118	118	118	118	118	118	112	118	

A

	Time	1173	5398	5399	5400	5401	5402	5403	5404	5405	5406	5407	5408	5409	5410	5411	5412	5416	5417	5418	5419	5420	5421	
X 161½	9.00½	150										100												1453 1454
177	22	"			100																			
180	25	"	118	120½		122	113	121	122.5	123	125		119.7	114.5	110	126.5	127	127	124	126	123	109.5	122	1473
189½	34	"	100											100										
191	36	"		100		120	99	113	121	122	122.5		113		109	125	126	125.5	122	124	121	107	122	1506
195½	42	"											100											
200	45	"				117		108	118.5	119.5	119				105.5	123	124	125	122	122	125	105.5	125	1526
205	50	"						100																
210	55	"				111			117	116	107				100	118	121	120	116	118	123	103.5	124	1531
212½	57½	"									100													
214½	57½	"							100															1540
217½	102½	"				100																		1548
221	106	"								105						111	113	111	106	108	119.5	108	120	1557
223	108	"								100														
225	110	"																	100	99				1567
226	111	"																100						1568
229½	114½	"														100								
230	115	"															101				110		115	1577
231	116	"															100							
236½	121½	"																			100			1591
239	124	"																					100	1597

Hit Test + 4 Reg Had 50 Runs on board

Runs in Hooper room on board.

5-4-13 } Had 72 Specials Runs in Highlands room
5-4-14 } before putting on Hit Test again
5-4-15 } which made the 206th Run up to here.

Time Cap 1258 1299 1340 1316 1257 1213 1242 1242 1246

Charge #3114207 5.10 300

9/26/07 8.10 A

On Charge

15 hrs

Discharge #3114207 8.15 150 147 147 147 148 149 149 149 149 148 148 149 149 149 148 148

9/26/07 20 " 144 142 142 142 142 142 142 142 142 141

25 " 139 139 139 139 139 139 139 139 139 139

X Overdrawn 35 " 135 137 138 137 137 136 137 136 136

55 " 132 134 133 135 134 133 133 133 132

60 9.15 " 130 132 131 131 131 130 131 130 130

39 " 129 130 130 130 130 129 129 129 129

55 " 128 129 129 129 130 128 129 128 128

100 10.15 " 127 129 129 128 128 127 128 127 127

35 " 126 128 128 127 127 126 127 126 126

55 " 126 127 127 127 128 126 127 126 126

180 11.15 " 125 127 127 126 127 126 126 126 126

35 " 124 126 126 125 126 125 125 125 125

55 " 124 125 125 124 125 124 124 124 124

240 12.15 " 122 124 124 123 124 123 124 123 123

35 " 122 124 124 123 124 123 124 123 123

55 " 122 124 124 123 124 123 124 123 123

300 1.15 " 119 121 121 121 122 119 122 120 120

35 " 118 120 120 119 119 118 119 118 118

55 " 117 119 119 118 119 118 118 118 118

3 00 35 " 117 118 118 117 118 116 118 117 117

55 " 115 117 117 116 118 115 117 116 116

3 20 35 " 111 115 117 116 112 112 114 114 114

55 " 109 111 114 113 109 108 116 111 111

2.00 " 100 100 100 100 100 100 100 100 100

3 40 04 " 100 100 100 100 100 100 100 100 100

3 48 04 " 100 100 100 100 100 100 100 100 100

3 55 04 " 100 100 100 100 100 100 100 100 100

3 52 07 " 100 100 100 100 100 100 100 100 100

3 53 06 " 100 100 100 100 100 100 100 100 100

3 55 100 " 100 100 100 100 100 100 100 100 100

	Time	Rate	1398	1399	1400	1401	1402	1403	1404	1405	1406	1407	1408	1409	1410	1411	1412	1413	1414	1415	1416	1417	1418	1419	1420	1421	1422	1423	1424	1425	1426	
360	2.15	150		104	108	110	102	100	102	106	100																				900
361	16	"									100																					903
362	17	"																	100													905
363	18	"		100																												907
364	19	"			100																											910
365	20	"								100																						913
368	23	"																		100	100											920
369	24	"																											100	100		922
370	25	"				104			104														113									932
373	28	"							100																							935
374	29	"				100																										
380	35	"																					104									
382	37	"																					100									945
Chkpt 372+328	50.5	150																														
9/27/07	11.45	"																														
Discharge 372+328	11.50	150	145	148	147	147	147	145	147	146	146		145	145	147	148	148	145	148	147	148	148	147	147	147	147	147					
	.54	"	140	145	142	142	142	140	142	141	141		140	140	141	142	142	143	143	143	144	142	143	144	142	142	143					
	1.00	"	138	140	139	139	140	137	139	138	138		138	138	139	140	140	141	141	142	140	140	141	140	140	140	140					
	1.0	"	135	138	137	137	137	135	137	137	137		136	136	136	137	138	138	138	138	139	138	138	137	137	137	138					
	3.1	"	132	135	134	136	135	131	134	132	132		132	132	133	135	135	135	135	136	135	135	136	134	134	135						
	52	"	130	133	132	131	132	129	132	130	130		130	130	131	133	133	132	133	134	132	133	134	132	132	133						
	1.16	"	128	131	130	129	131	128	130	128	128		128	128	129	130	131	130	132	132	131	132	132	131	130	131						
	30	"	127	130	130	132	130	126	129	127	127		127	127	128	129	131	130	131	132	130	130	131	130	130	131						
1.00	50	"	126	129	128	129	128	125	128	126	126		126	126	127	128	129	129	129	129	129	129	130	129	129	130						
	2.10	"	125	128	127	127	128	125	128	125	125		125	125	126	127	128	129	129	130	128	129	129	128	128	129						
	30	"	123	127	126	126	126	124	126	124	124		124	124	125	126	128	128	128	128	127	128	128	127	127	127						
1.00	50	"	122	126	125	125	125	123	126	124	124		123	123	124	126	127	127	127	128	127	127	127	127	127	127						
2.00	3.10	"	119	124	124	124	124	122	124	123	122		120	122	122	125	126	126	126	127	126	126	127	126	126	127						
2.20	30	"	123	122	122	122	122	119	123	121	120		119	119	119	124	124	124	124	125	124	124	125	124	124	125						
2.38	48	"	100																													
2.40	50	"		119	119	120	119	116	121	119	118		116	116	115	122	122	122	124	123	122	122	123	123	123	123	124					

Line change
167 1/3 Line

	Time	Amp																																		
255	40.0	150		116	116	118	118	114	119	117	116		120	114	109	120	120	120	123	124	120	120	121	121	121	122	123			630
255	0.2	"											100																	
255	0.8	"													109	120														645
260	10	"		110	105	114	105	109	115	115	111						119	117	116	120	123	115	117	119	117	119	123	120		
265	15	"			100																									662
268	18	"					100																							
270	20	"		100		110		103	111	111	104			103		112	114	110	117	122	109	113	116	112	117	119	118			670
274	24	"									100			100																675
276	26	"					100																							684
277	27	"																			100									692
278	28	"							100																					693
280	30	"				103				106						101	116	105	109	120		106	111	101	114	115	114			696
281	31	"																						100						
281.4	31.4	"														100														702
283.4	33.4	"				100																								703
283	35	"																100												708
285	37	"							100																					712
290	40	"														100			100	118		100	102		107	109	104			717
291	41	"																					100							725
291.6	41.6	"																										100		728
298	48	"																							100					745
300	50	"																		114						101				
301	151	"																		110						100				750
310	500	"																		100										
319	09	"																												797
Change Tap to 29 9-28-09	11:20	150	156	155	155	156	156	158	156	158	158		158	158	157	157	156	156	155	155	156	155	158	156	156	155				
	12:00	"	160	158	158	160	160	163	159	162	161		160	160	160	158	159	159	158	158	159	159	159	159	159	158				
	8:00	"	164	162	162	163	163	165	162	164	164		165	164	163	162	163	162	162	161	160	162	162	160	162	163				
X-6 3 @ 150	4:00	"	166	165	164	165	164	164	165	164	165		167	166	166	164	164	164	164	164	163	165	164	165	165	164				
	12:00	"	168	168	166	166	166	168	166	166	167		169	168	167	166	166	166	166	166	165	166	166	165	167	166				
1:00	12:00	"	169	168	168	167	168	169	169	169	169		170	169	169	167	167	167	167	167	167	167	167	166	168	167				
	4:00	"	169	168	168	168	168	169	168	169	169		170	169	167	168	168	167	167	168	167	168	168	167	168	168				
	1:00	"	169	169	168	169	169	170	169	170	170		170	169	168	168	167	169	168	168	168	168	168	168	167	168				
2	2:00	"	168	168	168	169	169	170	168	170	170		169	169	168	168	169	169	168	168	168	168	168	167	168	168				
	4:00	"	168	168	168	169	169	170	169	170	170		169	168	168	168	169	169	168	168	168	168	168	168	168	168				
	2:00	"	168	168	167	169	169	170	168	170	170		169	169	168	168	169	169	168	168	168	168	168	168	168	168				

| | Time | Amp | | |

| | Time | Cap | | |

| | | |

Time		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
7.00	"	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170
8.00	"	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170
20	"	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170
40	"	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170
9.00	"	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170
20	"	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170
40	"	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170
10.00	"	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170
20	"	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170
40	"	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170
11.00	"	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170
11.05	150	146	148	149	148	148	146	148	149	147	143	146	146	146	149	149	148	149	146	148	149	148	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143
09	"	141	144	143	142	143	140	143	142	142	138	141	141	142	144	144	144	142	143	143	142	142	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140
15	"	138	141	140	139	140	137	140	139	138	135	138	138	140	141	141	141	141	142	140	141	142	140	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137	137
25	"	136	139	138	136	138	135	137	136	135	133	136	137	138	139	139	138	139	140	138	138	140	137	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135
45	"	133	136	135	133	135	132	134	132	131	130	133	134	136	136	135	135	137	135	135	137	135	133	133	133	133	133	133	133	133	133	133	133	133	133	133	133	133	133	133	133	133	133	133	133	133	133	133	133
12.05	"	130	134	133	130	133	128	132	130	129	127	130	131	133	134	133	133	135	133	133	135	133	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130
25	"	129	132	131	128	131	126	128	127	126	124	127	128	131	132	132	131	133	131	131	133	131	128	128	128	128	128	128	128	128	128	128	128	128	128	128	128	128	128	128	128	128	128	128	128	128	128	128	128
45	"	127	131	130	127	129	124	129	126	125	122	125	127	129	130	130	129	130	129	129	130	129	127	127	127	127	127	127	127	127	127	127	127	127	127	127	127	127	127	127	127	127	127	127	127	127	127	127	127
1.05	"	125	129	128	126	128	122	125	125	124	120	123	125	127	129	129	128	129	128	128	129	128	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125
25	"	124	127	125	125	127	120	124	124	123	118	121	124	126	127	127	126	127	126	126	127	126	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124	124
45	"	122	125	126	125	125	118	121	123	118	115	118	122	124	125	125	124	125	124	124	125	124	122	122	122	122	122	122	122	122	122	122	122	122	122	122	122	122	122	122	122	122	122	122	122	122	122	122	122
2.05	"	123	125	124	122	123	116	121	121	116	113	116	120	122	124	124	123	124	123	123	124	123	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120
25	"	122	124	123	122	122	115	120	120	115	112	115	119	121	123	123	122	123	122	122	123	122	119	119	119	119	119	119	119	119	119	119	119	119	119	119	119	119	119	119	119	119	119	119	119	119	119	119	119
45	"	121	123	122	120	122	114	119	119	114	111	114	118	120	122	122	121	122	121	121	122	121	118	118	118	118	118	118	118	118	118	118	118	118	118	118	118	118	118	118	118	118	118	118	118	118	118	118	118
3.05	"	120	122	121	119	121	113	118	118	113	110	113	117	119	121	121	120	121	120	120	121	120	117	117	117	117	117	117	117	117	117	117	117	117	117	117	117	117	117	117	117	117	117	117	117	117	117	117	117
25	"	119	121	120	118	120	112	117	117	112	109	112	116	118	120	120	119	120	119	119	120	119	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116
45	"	118	120	119	117	119	111	116	116	111	108	111	115	117	119	119	118	119	118	118	119	118	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115

Time - Amps

7.00 171
8.00 171
20 170
40 170
9.00 170
20 170
40 170
10.00 170
20 170
40 170
11.00 170
11.05 150
09 141
15 138
25 136
45 133
12.05 130
25 129
45 127
1.05 125
25 124
45 122
2.05 120
25 119
45 118
3.05 117
25 116
45 115

Recharge 3-28-31
10/1/07

5 hrs

6.0

11.0

+77

| | | |

	Time	Temp	5398	5399	5400	5401	5402	5403	5404	5405	5406	5407	5408	5409	5410	5411	5412	5413	5414	5415	5416	5417	5418	5419	5420	5421	
	9 20	200	172	170^5	172^5	172^5	171	173	170^5	174	172	175	174	173	172^5	171	172	171	169	169	172	171	170	170	170	170	
	40	11	172	171	173	172^5	171	173	170^5	173	172	175^5	174	173	172^5	171	172	172	169	169	172	171	170^5	171	171	170	
4 hrs	10.00	11	172	171	172^5	172^5	171	173	170	173	172	174^5	173^5	173	172^5	171^5	172	172	169	170	172	171^5	171	171	171	171	
	20	11	172	171	172	172^5	171	173	170^5	173	171	174	173	173	172	172	172	172	169	170	172	172	171	171	171	172	
	40	11	171	171^5	172	172	170^5	173	170^5	173	171	174	173	173	172	172	172	171^5	169	170^5	172	172	171	172	171	172	
5 hrs	11.00	11	171	171	171^5	172	170	173	170	172	171	174	173	172	172	172	172	171	169	170	172	172	171	172	171	171^5	
Discharge #276 & #212	11.05	150	147	149^5	49	147	148	146	148	147	146	145	146	146	148	149	148	148	148	149	147	148	149	147	147	148	
	.09	11	141	144	143	142	143	140^5	142	141	141	140	141	141	143	144	143	144	144	144	143	143	144	142	142	143	
X-5 lbs @200	15	11	139	141	140	39	141	138	140	139	138	137^5	138	139	141	141^5	141	141	141	142	140	141	142	140	140	141	
	25	11	137	139	138	136	139	135	137^5	136	135	135	136	137	138	139	138^5	138	139	140	138	138^5	140	137^5	137	139	
	45	11	133	136	135	132	135	130	134	132	131	132	132	134	135	136	135	135	135	137	135	135	137	134	132^5	136	
60	12.05	11	131	134	133	130	133	127	132	129	128	130	130	131	132^5	133^5	133	133	132^5	135	133	133	134^5	132	130	134	
	25	11	129	132	131	128	131	125	130^5	127	126	128	128	129	131	132	132	131	131	134	131	131	133	130^5	128	132	
	45	11	127	131	130	126^5	129	123	129	126	124	127	126	128	129^5	131	130^5	130	130	132	130	130	132	129^5	127	131	
120	1.05	11	126	130	129	125^5	128	121	128	125	120	125	125	127	129	130	130	129^5	129	131	129	129^5	131	128^5	126	130	
	25	11	124	129	128	124	127	118	127	124	114	124	123	125	128	128^5	128	128	128	129^5	128	128	129^5	127	125	129	
	45	11	121	127	126	123	125	116	126	122	111	122	121	124	127	127^5	127^5	127	127	129	127	127	129	127	124	128	
180	2.05	11	115^5	126	124	122	123	113	125	120	107	119	119	122	125^5	126	126	126	126	127	126^5	126	127^5	126	123	127	485
194	19	11	100																								
200	25	11		122^5	121	120	118	110	123	118	104	114	116	119	124	125	125	124^5	125^5	125	124	125	126	124	122	126	
210	35	11		120.5	120	118	113	108	122	117	103	108	114	116	123	124	124	125	125	124	123	124	125	123	121	125	
214	39	11										100															535
220^5	45	11		115	115	116	101	103	120	115	1015		107	106	122	122	122	123	124	122	121	122	123	122	120	124	
221^5	46^5	11						100																			553
225	50	11												100													562
228^5	53^5	11									100																571
229	54	11											100														572
230	55^5	11		106	100	114		101	117	113					120	120	119^5	122	123	118	118	120	120	122	118	122	575
232	57	11						100																			580
234	59	11		100																							585
240	3.05	11				107			108^5	109					116	116	115	120^5	122	109	111	113	116	117^5	116	120	615
246	11	11							100																		
248	13	11				100																					620

| Time | Hg | | |

Time	Amp	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8	CH9	CH10	CH11	CH12	CH13	CH14	CH15	CH16	CH17	CH18	CH19	CH20	
2:10	2:35	150			114	114	117	101	105	120	116	102		105	103	123	123	124	124	123	122	123	124	123	119	126	
2:10	39	"						100																			530
2:14	39	"												100													535
2:15	40	"																									538
2:16	41	"				100																					540
2:16	40	"										100															541
2:19	40	"							100																		547
2:20	40	"		100		113				116	113				121	121	120	122	123	119	119	120	121	121	118	123	
2:20	45	"		100																							551
2:30	05	"				105				105	108				118	116	119	120	123	117	112	115	116	117	116	120	
2:35	3:00	"								100																	589
2:35	00	"				100																					588
2:36	01	"																		100							590
2:38	03	"									100																591
2:40	05	"													111	107	105	117	120		100	107	106	112	113	115	600
2:43	08	"															100										607
2:45	10	"														100							100				612
2:46	11	"													100									100			615
2:51	16	"																103	117					102	117	102	
2:52	17	"																						100		100	631
2:53	18	"																	100								632
2:53	18	"																									633
2:56	21	"																							100		641
2:60	25	"																110									
2:71	36	"																103									
2:72	38	"																100									682
Charge 378 + 214	7:00	750	160	160	160	164	162	161	161	166	156		165	166	163	161	161	161	162	160	162	162	159	162	165	162	
	.04	"	165	165	165	169	167	167	167	171	159		170	170	168	167	166	166	167	166	168	166	167	167	169	166	
X-4 hrs @ 750	1.0	"	169	167	167	171	168	169	169	173	167		170	170	168	168	167	162	166	167	168	165	169	169	169	167	
	2.00	"	171	169	169	172	170	172	170	175	165		170	170	170	170	170	170	171	168	170	170	168	171	171	169	
	4.0	"	171	171	170	174	172	172	171	176	172		170	170	170	170	170	170	172	170	172	171	169	172	172	169	
1 hrs	8.00	"	170	170	170	172	171	175	170	176	172		170	170	170	170	169	169	169	169	171	170	169	170	171	169	
	7.0	"	170	170	170	175	170	174	170	175	172		170	170	170	170	169	169	169	171	170	169	169	171	170	168	
	4.0	"	169	170	169	172	170	174	170	174	172		170	170	170	169	169	168	171	170	169	169	170	170	170	168	
2 hrs	9.00	"	169	170	170	172	170	173	170	174	172		170	170	170	170	169	169	168	172	170	168	170	170	170	169	
	20	"	170	170	171	173	170	173	170	174	172		170	170	170	170	169	168	172	170	170	169	170	170	170	169	
	40	"	171	170	172	172	170	172	170	173	171		170	170	170	170	169	169	172	170	170	170	170	170	170	169	

| Time | | |

| Time | Amp | | |

	Time	Amp	5398	5399	5400	5401	5402	5403	5404	5405	5406	5407	5408	5409	5410	5411	5412	5413	5414	5415	5416	5417	5418	5419	5420	5421	
2 20	2.10	150								102					118	116	115	120	121	107	107	116	115	117^5	113	121	
222	12	〃								100																	555
225	15	〃																		100	100						562
230	20	〃													110	110	105	117	118^5			105	102	112	108	116	
231	21	〃																					100				577
234	24	〃																				100					585
235	25	〃													100		100										587
236	26	〃														100											590
240	30	〃																103	115					100	100	105	600
241	31	〃																100									602
243	33	〃																								100	607
250	40	〃																	108								
258	48	〃																	100								645
Charge @ 300 @ 216	8.00	300	163	163	163	169	164	167	166	171	158	164	170	167	165	165	165	165	167	163	164	165	161	166	168	164	
10/9/07	04	〃	172	170	170	175	171	174	171	176	166	175	175	173	171	171	171	172	172	169	171	170	168	172	174	170	
	11	〃	174	173	172	178	174	177	174	180	173	177	178	176	174	174	174	174	176	172	174	174	170	175	177	173	
X = 3 1/3 @ 300	20	〃	175	174	173	179	175	180	175	182	176	177	178	176	175^5	175	175	174	177	173	175	175	172	175	178	174	
	40	〃	174	174	174	179	174^5	180	174	182	176	176	177	175	175	175	174	173	176	172	175	174	172	174	178	172	
1 hrs.	9.00	〃	173	174	173	178	174	179	174	181	176	176	176^5	174^5	175	174^5	173	172^5	176	172	175	174	172^5	174	176	172	
	20	〃	173	173^5	173	177	174	178	174	180^5	176	176	176^5	174^5	175	174	174	172	175	172	175	174	172	173	175	172	
	40	〃	173	173	174	178	174	177	174	179	175	177	177	175^5	176	175	174	172^5	174^5	172^5	176	174	173	173	174	172	
2 hrs	10.00	〃	174	174	175	177	174	177	174	179	175	178	177^5	178	176	175	176	174	174	174	176	174	174	174	174	172^5	
	20	〃	176	174	176^5	178	174	177	174	178	175	177^5	177^5	178	177	176	176	176	175	174	176	176	174	175	174	174	
	40	〃	176	175	176	178	174	177	175	177	175	178	177^5	178	176^5	176	177	177	176	175	176^5	176	175	176	174	176	
3 hrs.	11.00	〃	175	175	176	178	174	177	176	178	174	177	177	177	176	176	177	177	176	176	176	177	177	177	176	176	
3 1/3 hrs.	20	〃	175	175	176	178	174	177	176	178	174	177	177	177	176	176	177	177	176	176	176	178	178	178	177	176	
Discharge 280 @ 216	11.25	150	149	151	150	149	150	148	149	148	149	147	147	147	149	150	150	149	149	150	148	149	150	148	148	149	
	29	〃	142	144	144	142	144	142	143	142	142	142	142	142	144	145	144	144	144	145	144	144	145	144	142	144	
	35	〃	139^5	142	141	139	142	138	140^5	139^5	138	139	139	140	141	142	141	141	141	142	141	141	142	140	138^5	141^5	

X - 3 1/5 @ 300

Time	Amps	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	
11.45	150	127	140	139	136	139	136	138	136	136	126	126	127	138	140	139	138	138	140	139	139	140	138	136	139	
12.06	"	133	139	135	132	136	131	134	132	132	133	132	133	135	136	135	135	134	138	135	135	139	134	131	136	
15	"	131	134	133	129	133	128	132	129	130	130	130	131	133	134	135	133	131	135	134	133	135	132	129	134	
45	"	129	133	132	127	132	126	130	127	128	129	128	129	131	132	131	131	130	133	132	134	133	130	127	132	
1.05	"	127	131	130	126	129	124	129	126	127	127	126	127	130	130	130	128	128	132	130	130	132	130	126	131	
15	"	124	130	128	124	128	122	128	124	125	125	125	125	128	130	129	129	127	131	129	129	131	128	125	130	
45	"	121	128	125	123	126	120	127	123	124	123	123	124	127	128	128	128	126	129	128	128	130	127	123	128	
2.05	"	103	126	125	121	123	117	125	121	122	119	122	126	127	127	127	126	125	128	126	127	128	126	121	127	
06	"	100									100															
15	"		122	121	119	116	122	123	119	119		103	117	117	126	126	125	125	126	125	125	127	126	119	126	
35	"											100														
37	"		111	113	116	100	107	120	116	118			108	104	124	124	124	124	123	124	123	124	125	123	116	125
47	"													100												
55	"		100	100	114		104	109	115	114			101		123	123	123	124	123	123	122	122	124	122	116	124
57	"		100																							
46	"												100													
50	"					100																				
55	"				109		107	107	106					121	120	120	122	121	120	118	118	117	119	114	122	
03	"							100																		
04	"				100																					
06	"							106	101					118	117	117	120	120	110	112	117	116	118	110	120	
06	"								100																	
10	"							100																		
11	"																		100							
13	"																			100						
15	"													110	108	107	117	118			110	104	112	106	116	
17	"																					100				
20	"														100										100	
20	"													100												
20	"															100										
20	"																				100					
20	"																									
20	"																									
42	"																									

Time	Amps	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	
11.45	150	138	140	139	138	138	140	139	139	140	138	136	139									
12.06	"	135	136	135	134	138	135	135	139	134	131	136										
15	"	133	134	133	131	135	134	133	135	132	129	134										
45	"	131	132	131	130	133	132	133	130	127	132											
1.05	"	130	130	130	128	132	130	130	126	131												
15	"	129	129	131	129	129	129	129	125	130												
45	"	128	128	128	126	128	128	128	123													
2.05	"	125	128	126	127	128	126	127	128	121	127											
06	"																					
15	"	125	126	125	125	126	125	125	127	119	126											
35	"	123	124	123	124	123	124	125	123	116	125											
47	"																					
55	"	122	122	124	122	116	124															
57	"																					
46	"																					
50	"																					
55	"	118	117	117	120	120	120	118	118	117	119	114	122									
03	"																					
04	"																					
06	"	118	117	117	120	120	110	112	117	116	118	110	120									
06	"																					
10	"																					
11	"																					
13	"																					
15	"	110	108	107	117	118			110	104	112	106	116									
17	"									100												
20	"											100										
20	"	100																				
20	"																					
20	"																					
20	"																					
42	"																					

- 400
- 455
- 450
- 500
- 501
- 503
- 512
- 517
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- 642

Notebook, N-08-12-22.1

December 22, 1908.

A4 CELL #398.

Contains –

*731 $Ni(OH)_2$
19+29 Ni flake
962 Fe Mix

Cell received dry.
Filled with 1330 cc of 21% KOH containing 45 gr of SiOH per liter and added 60 g. of dry SiOH.
Allowed plates to soak in the electrolyte 22 hours before putting cell on charge.

A4 *398

DATE	TIME	MIN.	AMPS	VOLTS 398	VOLTS 7.2	VOLTS 7.1	REMARKS
			Charge # 1.				
12/22/08	PM 1.45	0	.15	.55	.469	.005	Ni-Cd Test Electrode
	.47	2	"	.585	.48	.100	
	.50	5	"	.59	.479	.105	
	.55	10	"	.593	.479	.111	
	2.05	20	"	.600	.479	.113	
	.15	30	"	.605	.48	.119	
	.26	41	"	.627	.500	.122	
	.35	50	"	.663	.535	.123	
	.40	55	"	.702	.572	.125	
	.45	60	"	.736	.607	.127	
	.50	65	"	.877	.74	.132	
	.55	70	"	1.08	.94	.137	
	3.00	75	"	1.28	1.138	.137	
	.05	80	"	1.50	1.36	.127	
	.10	85	"	1.56	1.419	.132	
	.15	90	"	1.616	1.472	.126	
	.25	100	"	1.622	1.482	.125	
	.35	110	"	1.622	1.482	.125	
	.46	120	"	1.623	1.481	.127	
	4.05	140	"	1.623	1.481	.125	
	.25	180	"	1.623	1.479	.126	
	.45	190	"	1.623	1.478	.128	
	5.05	200	"	1.623	1.477	.129	
	.25	220	"	1.628	1.471	.142	

DATE	TIME	MIN.	AMP	VOLTS 398	VOLTS 7.2	VOLTS 7.1
12-22-08	PM 5.45	240	.15	1.625	1.473	.142
	6.05	260	"	1.625	1.473	.142
	.25	280	"	1.625	1.467	.143
	.45	300	"	1.627	1.467	.145
	7.05	320	"	1.632	1.465	.15
	.25	340	"	1.632	1.465	.15
	.45	360	"	1.635	1.463	.152
	8.05	380	"	1.636	1.462	.155
	.25	400	"	1.636	1.465	.152
	.45	420	"	1.637	1.466	.155
	9.05	440	"	1.636	1.465	.156
	.25	460	"	1.636	1.465	.157
	.45	480	"	1.638	1.464	.158
	10.05	500	"	1.64	1.466	.16
	.25	520	"	1.641	1.466	.161
	.45	540	"	1.642	1.467	.162
	11.05	560	"	1.644	1.467	.161
	.25	580	"	1.65	1.470	.162
	.45	600	"	1.657	1.47	.162
12/23	AM 12.05	620	"	1.662	1.48.2	.165
	.25	640	"	1.67	1.49	.165
	.45	660	"	1.67	1.49	.166
	1.05	680	"	1.675	1.495	.17
	.25	700	"	1.67	1.497	.17
	.45	720	"	1.67	1.50	.170

DATE	Time	Min.	AMP	Volts 298	Ve.	Vw.
12/23/68	AM 2:05	740	15	169	1500	17.5
	.25	760	"	170.1	151	17.7
	.45	780	"	171	151.5	17.5
	3:05	800	"	171	152.2	17.3
	.25	820	"	172	153	17.5
	.45	840	"	172	153	17.2
	4:05	860	"	172.5	152.5	17.5
	.25	880	"	172.3	153.2	17.3
	.45	900	"	173	154	17
	5:05	920	"	173	154.1	17.5
	.25	940	"	173	154.1	17.2
	.45	960	"	173	154.2	17.1
	6:05	980	"	173	154.2	17.2
	.25	1000	"	172.6	155	17.5
	.45	1020	"	174.4	155	17.3
	7:05	1040	"	174.5	155	17.5
	.25	1060	"	174	154.4	17.1
	.45	1080	"	174.2	155.5	17.1
	8:05	1100	"	174.2	155.5	17.1
	.25	1120	"	174.5	154	17.3
	.45	1140	"	175	155.9	17.9
	9:05	1160	"	175	155.9	.18
	.25	1180	"	175	155.9	.18
	.45	1200	"	175	155.9	.18
	10:45	1260	"	174.7	155.7	.15

DATE	Time	Min.	AMP	Volts 298	Ve.	Vw.
12/23/68	AM 11:45	1320	15	174	155	.179
	PM 12:45	1380	"	174	155	.179
	1:45	1440	"	173.9	154.2	.178
	2:45	1500	"	173.4	154	.177
	3:45	1560	"	173.2	154	.177
	4:45	1620	"	173.9	153.9	.178
	5:45	1680	"	173.6	154	.178
	6:45	1740	"	173.3	153.9	.177
	7:45	1800	"	173.3	153.7	.177
	8:45	1860	"	173	153.5	.176
	9:45	1920	"	173	153.4	.176
	10:45	1980	"	173.9	153.3	.176
	11:45	2040	"	171.7	153	17.1
12/24	12:45	2100	"	172	153	17.1
	1:45	2160	"	171.7	153	17.4
	2:45	2220	"	171.7	153	17.4
	3:45	2280	"	172.2	153.5	17.5
	4:45	2340	"	172.2	153.5	17.5
	5:45	2400	"	172.2	153.7	17.5
	6:45	2460	"	172.5	153.5	17.5
	7:45	2520	"	172.2	151.5	17.5
	8:45	2580	"	172.2	151.6	17.6
	9:45	2640	"	172.5	152.2	.179
	10:45	2700	"	172.5	152.2	.179
	11:45	2760	"	172.5	152.2	.18

DATE	TIME	MIN.	AMP	VOLTS 398	Vx	Vh	
12/24/62	PM 12.45	2920	15	1.727	1.53	.185	
	1.45	2880	"	1.727	1.536	.181	
				Discharge	F		
12/24	P.M. 1.48	—	off	1.577	1.423	.139	
	50	0	30	1.48	1.37	.108	
	52	2	"	1.383	1.325	.046	
	55	5	"	1.362	1.322	.037	
	2.00	10	"	1.345	1.32	.017	
	10	20	"	1.372	1.32	.003	
	20	30	"	1.30	1.319	-.023	
	30	40	"	1.28	1.316	-.04	
	50	60	"	1.252	1.309	-.062	
	3.10	80	"	1.223	1.305	-.091	
	20	100	"	1.203	1.302	-.102	
	50	120	"	1.192	1.30	-.12	
	4.10	140	"	1.177	1.30	-.132	
	30	160	"	1.162	1.30	-.142	
	50	180	"	1.152	1.299	-.147	
	5.10	200	"	1.147	1.296	-.152	
	30	220	"	1.14	1.294	-.161	
	50	240	"	1.132	1.293	-.165	
	6.10	260	"	1.122	1.293	-.175	
	30	280	"	1.117	1.29	-.18	
	50	300	"	1.106	1.285	-.189	

DATE	TIME	MIN.	AMP	VOLTS 398	Vx	Vh	
12/24/62	PM 7.10	320	30	1.10	1.285	-.192	
	.30	340	"	1.095	1.28	-.20	
	.50	360	"	1.092	1.282	-.205	
	8.10	380	"	1.089	1.282	-.22	
	.30	400	"	1.042	1.281	-.242	
	.50	420	"	1.025	1.279	-.26	
	9.50	430	"	1.007	1.279	-.277	
	.03	433	"	1.00	1.279	-.285	-216.5
	.10	440	"	.98	1.28	-.299	
	.20	450	"	.905	1.281	.392	
	.25	455	"	.762	1.292	.552	
	.28	458	"	.50	1.297	.805	-229.2

Stood 74 hours over Christmas, Saturday, and Sunday.

DATE	TIME	MIN.	AMP	VOLTS #398	TEMP. 398	TEMP. Odle	
12/27/[illegible]			Charge #2				
	P.M. 11.20	0	20	on charge			
	.50	30	"		71.5	67.5	
12/28	AM 1.50	150	"		80	68.2	
	3.50	270	"		78.5	70.5	
	5.50	390	"		78	71.5	
	7.50	510	"		88	71.7	
	9.20	600	"		88 (84)	72	

Put cell in cooling-cary and continued charge at lower temperature as follows:

12/28	AM 9.50	0	30		68.5	72.	
	10.50	60	"		66	72	
	11.50	120	"		59.5	73.5	
	12.50	180	"		58	74.5	
	1.50	240	"		61	75.5	
	2.50	300	"		64.5	77.5	
	3.50	360	"		65	78	
	4.50	420	"		66	78	
	5.50	480	"	1.026	62	77.2	
					(63.4)		

DATE.	TIME	MIN.	AMP	VOLTS #398	TEMP 398	TEMP Odle	
			Discharge #2				
12/28	PM 5.52	—	open	1.072			Low air.
	.55	0	600	1.42			
	.57	2	"	1.265			
	600	5	"	1.20			
	.05	10	"	1.17			
	.15	20	"	1.145			
	.25	30	"	1.122			
	.35	40	"	1.10	73	77.7	
	.45	50	"	1.085			
	.55	60	"	1.072			
	7.05	70	"	1.062			
	.15	80	"	1.057	82	77	
	.25	90	"	1.042			
	.35	100	"	1.032			
	.45	110	"	1.02			
	.55	120	"	1.007	98.5	77	
	8.00	125	"	1.00			-125
	.05	130	"	.98			
	.15	140	"	.965			
	.25	150	"	.945			
	.35	160	"	.922	1.065	76	
	.45	170	"	.902			
	.55	180	"	.862			
	9.05	190	"	.84			

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP		
12-28-8	PM 9.15	200	60	.76	.117	76	
	.20	205	"	.547			
	.21	206	"	.50			-206

Set stand 2 hrs.

Charge 3

12/29	PM 12.25	0	20		89	74.5	
	2.25	120	"		89.5	74.2	
	4.25	240	"		89	74.5	
	6.25	360	"		89	74.7	
	8.25	480	"		91	74.	
	10.25	600	"		92.5 (PM)	74	

Cut cell in cooling can and continued charge at lower temperature as follows

	AM 10.55	0	20		70	74	
	11.55	60	"		64.2	73.7	
	12.55	120	"		63.2	74.2	
	1.55	180	"		63	74.7	
	2.55	240	"		64.5	75	
	3.55	300	"		62	75.5	
	4.55	360	"		60.5	77	
	5.55	420	"		61	77.	
	6.55	480	"	19.0	61.2	77.2	
					(633)		

DATE	TIME	MIN.	AMP	VOLTS 398			
				Discharge 3			
12-29-8	PM 6.52	—	off	1.622	61.2	77.2	clm air.
	7.00	0	60	1.445			
	.02	2	"	1.28			
	.05	5	"	1.24			
	.10	10	"	1.21			
	.20	20	"	1.17			
	.30	30	"	1.14			
	.40	40	"	1.12	80.2	77.5	
	.50	50	"	1.11			
	8.00	60	"	1.095			
	.10	70	"	1.082			
	.20	80	"	1.073	91	77.5	
	.30	90	"	1.062			
	.40	100	"	1.045			
	.50	110	"	1.035			
	9.00	120	"	1.015	101	77.7	
	.10	130	"	1.00			-130
	.20	140	"	.975			
	.30	150	"	.952			
	.40	160	"	.933	111.5	77.5	
	.50	170	"	.913			
	10.00	180	"	.895			
	.10	190	"	.845			
	.20	200	"	.78	111.5	77.2	

DATE	TIME	MIN.	AMP.	VOLTS 398	TEMPS 398	398	
12-20-8	1025	205	60	.62			
	.28	208	"	.60			-.208

Let Stand 3 hours.

Charge #4

	TIME	MIN.					
12-20-8	PM. 1.20	0	20	on charge			
	2.00	70	"		90	77	
	4.00	150	"		94.5	76.5	
	6.00	270	"		89.5	76.5	
	8.00	398	"		88.7	76.5	
	10.00	510	"		89.5	74.5	
	PM 12.00	630	"		91	74	
	2.00	750	"		92	74.2	
	4.00	870	"		94	74.5	
	12.00	900	"	1.222	(966)		
				398	Vc	Vc	

Discharge #4

	TIME	MIN.					
12-20-8	PM. 4.22	—	Open	1.525	1.47	.101	
	.25	0	20	1.51	1.44	.055	
	.27	2	"	1.422	1.394	.018	
	.40	5	"	1.396	1.38	.005	
	.45	10	"	1.377	1.377	-.002	
	.55	20	"	1.345	1.363	-.02	
	5.05	30	"	1.325	1.36	-.039	
	.15	40	"	1.302	1.352	-.05	

DATE	TIME	MIN.	AMP.	VOLTS 398	TO N 02 Vc	Vc	
12-20-8	PM. 5.35	60	20	1.275	1.342	-.072	
	.45	80	"	1.247	1.337	-.09	
	6.15	100	"	1.225	1.332	-.107	
	.35	120	"	1.212	1.327	-.116	
	.55	140	"	1.197	1.32	-.125	
	7.15	160	"	1.183	1.32	-.137	
	.35	180	"	1.175	1.315	-.145	
	.55	200	"	1.162	1.313	-.155	
	8.15	220	"	1.152	1.308	-.162	
	.35	240	"	1.137	1.303	-.17	
	.55	260	"	1.123	1.30	-.18	
	9.15	280	"	1.107	1.30	-.193	
	.35	300	"	1.096	1.296	-.202	
	.55	320	"	1.077	1.295	-.215	
	10.15	340	"	1.059	1.288	-.229	
	.35	360	"	1.025	1.28	-.259	
	.45	370	"	100.7	1.27	-.277	
	.49	374	"	100	1.277	-.285	-.187
	.55	380	"	97.5	1.22	-.315	
	11.05	390	"	91.7	1.29	-.382	
	.15	400	"	77	1.30	-.454	
	11.7	404	"	50	1.31	-.561	-.302

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP. 398	TEMP. Dale	
12/21/6	PM			Alange		5	
	11.20	0	30		Alange		
	50 AM	30	"		91	74	
12/21	1.50	150	"		92.5	74	
	3.50	270	"		90.5	72.5	
	5.50	390	"		89.5	72.7	
	7.50	510	"		92	72.6	
	9.50	630	"		92.5	72	
	11.50	750	"		94.5	72.5	
	PM 1.50	870	"		95	74	
	2.20	900	"	1.84	93.2		
					%	Nu	
				Kiralange 5			
12-31-8	TIM. 2.25	—	0 Amp	1.59	1.485	-.102	
	35	0	30	1.50	1.444	.062	
	37	2	"	1.425	1.40	.018	
	30	5	"	1.395	1.38	.003	
	35	10	"	1.375	1.377	-.009	
	45	20	"	1.345	1.372	-.025	
	55	30	"	1.325	1.365	-.042	
	3.05	40	"	1.305	1.36	-.057	
	15	60	"	1.295	1.35	-.079	
	45	80	"	1.255	1.342	-.102	
	4.05	100	"	1.233	1.333	-.114	
	15	120	"	1.215	1.325	-.122	

DATE	TIME	MIN.	AMP	VOLTS 398	VOLTS Nia	VOLTS Nu	
12-31-8	TIM. 4.45	140	30	1.20	1.327	-.132	
	5.05	160	"	1.186	1.326	-.14	
	25	180	"	1.178	1.322	-.15	
	45	200	"	1.165	1.32	-.16	
	6.05	220	"	1.155	1.316	-.165	
	25	240	"	1.14	1.314	-.177	
	45	260	"	1.125	1.309	-.183	
	55	270	"	1.12	1.305	-.187	
	7.05	280	"	1.113	1.304	-.196	
	15	290	"	1.106	1.302	-.20	
	25	300	"	1.10	1.30	-.203	
	35	310	"	1.093	1.299	-.208	
	45	320	"	1.081	1.297	-.217	
	55	330	"	1.075	1.295	-.223	
	8.05	340	"	1.062	1.29	-.233	
	15	350	"	1.052	1.289	-.24	
	25	360	"	1.04	1.285	-.256	
	30	365	"	1.029	1.284	-.26	
	35	370	"	1.021	1.285	-.267	
	40	375	"	1.007	1.285	-.282	
	45	378	"	1.00	1.285	-.292	-1.89
	50	380	"	0.995	1.287	-.298	
	55	385	"	0.977	1.288	-.32	
	55	390	"	0.955	1.285	-.347	
	9.00	395	"	0.93	1.29	-.401	

DATE	TIME	MIN.	AMP	VOLTS 398	VOLTS TONIA Hz	Hz	
12-31-09	PM 9.05	400	20	.843	1.203	-.465	
	.09	404	"	.745	1.205	-.567	
	.11	406	"	.605	1.207	.71	
	.12½	407½	"	.60	1.207	-.22	-.203.7
		School	16°	Some	one	New	Years

TONIA
398 FOLE

1/2/09 AM Charge 6

	.15	0	30	1.5 =	73.5	7.25
	.17	2	"	127		
	.20	5	"	169.7		
	.25	10	"	171.7		
	.35	20	"	173.5		
	.45	30	"	174		
	.55	40	"	174.2		
	2.15	60	"	173.7	77.5	72.5
	.35	80	"	172		
	.55	100	"	171		
	3.15	120	"	170	81.5	72.7
	.35	140	"	170.2		
	.55	160	"	170		
	4.15	180	"	170.2	83.5	73
	.35	200	"	170.2		
	.55	220	"	171		
	5.15	240	"	171	85.5	74

DATE	TIME	MIN.	AMP	VOLTS 398	TONIA 398	FOLE
1/2/09	AM 5.35	260	20	171.5		
	.55	280	"	171.7		
	6.15	300	"	172	87	7.5
	.35	320	"	172		
	.55	340	"	172.2		
	7.15	360	"	173	87.5	74.5
	.35	380	"	173.7		
	.55	400	"	174.7		
	8.15	420	"	1.76	88	74.5
					133 4	

Discharge 6

1/4/09	AM 8.18	—	0	30	1.575	
	8.20	0	"	30	145.5	
	.22	2	"		142	
	.25	5	"		139	
	.30	10	"		137	
	.40	20	"		133	
	.50	30	"		131	
	9.00	40	"		127	
	.20	60	"		127	88	76
	.40	80	"		125.2	
	10.00	100	"		123.7	
	.20	120	"		121.5	89.5	75
	.40	140	"		120.2	
	11.00	160	"		119	

DATE	TIME	MIN.	AMP	VOLTS 398			
	A.M.						
1-4-09	11 20	180	20	1.18	91.5	75	
	40	200	"	1.167			
	P.M.						
	1200	220	"	1.152			
	20	240	"	1.137	91.5	74.7	
	40	260	"	1.12			
	1 00	280	"	1.102			
	20	300	"	1.08	92.5	74	
	20	310	"	1.062			
	40	320	"	1.04			
	50	330	"	1.005			
	51	331	"	1.00			-165.5
			Change #7				
1-4-9	P.M. 2.10	0.	20	1.462	95	75	
	12	2	"	1.55			
	15	5	"	1.53			
	20	10	"	1.569			
	20	20	"	1.565			
	40	30	"	1.555			
	50	40	"	1.662			
	2.10	50	"	1.665	93.7	75.5	
	20	90	"	1.669			
	50	100	"	1.66			
	4.10	120	"	1.66	91.5	75	

DATE	TIME	MIN.	AMP	VOLTS 398			
	P.M.						
1-4-9	4 20	140	20	1.66			
	50	160	"	1.663			
	5.10	180	"	1.67	92.5	76	
	30	200	"	1.68			
	30	220	"	1.69			
	6.10	240	"	1.697	91	76.2	
	20	260	"	1.70			
	50	280	"	1.715			
	7.10	300	"	1.725	92.5	76.5	
	30	320	"	1.74			
	50	340	"	1.76			
	8.10	360	"	1.78	91.2	76.5	
	30	380	"	1.795			
	50	400	"	1.80			
	9.10	420	"	1.815	93	76.5	
					92.5		
			Stop change #7				
1-4-9	P.M. 9.13	—	0	1.58			
	15	0	20	1.50			
	17	2	"	1.405			
	20	5	"	1.395			
	25	10	"	1.365			
	35	20	"	1.337			
	40	30	"	1.32			

DATE	TIME	MIN	AMP	VOLTS	TEMPS 39F	TEMPS 70F
1/4/09	PM 10.15	60	30	127.5	95.5	78
	.35	80	"	125.7		
	.55	100	"	124		
	11.15	120	"	122.2	93.7	78
	.35	140	"	121		
	.55	160	"	120		
1/5	12.15 AM	180	"	118.5	94	77.6
	.35	200	"	117		
	.55	220	"	116.5		
	1.15	240	"	114.5	94.5	78
	.35	260	"	113		
	.45	270	"	112		
	.55	280	"	111.5		
	2.05	290	"	110.5		
	.15	300	"	109.7	95.5	77.5
	.25	310	"	108.2		
	.35	320	"	106.5		
	.45	330	"	105		
	.55	340	"	102		
	3.00	340½	"	100		

DATE	TIME	MIN	AMP	VOLTS	TEMPS 39F	TEMPS 70F
1/5/09		Charge				
	AM 3.20	0	30	142	97.7	77.5
	.22	2	"	150		
	.25	5	"	152.2		
	.30	10	"	155		
	.40	20	"	159.7		
	.50	30	"	163		
	4.00	40	"	165		
	.20	60	"	167	98.5	77
	.40	80	"	166		
	5.00	100	"	166		
	.20	120	"	166	99.5	77
	.40	140	"	166.2		
	6.00	160	"	167		
	.20	180	"	167	99.5	77
	.40	200	"	167.7		
	7.00	220	"	168		
	.20	240	"	169	98.5	77
	.40	260	"	170.2		
	8.00	280	"	171		
	.20	300	"	172.2	98.5	77
	.40	320	"	173		
	9.00	340	"	173.2		
	.30	360	"	173.5	99.7	76.5
	.40	380	"	173.7		

DATE	TIME	MIN.	AMPS	VOLTS 398	TEMP 398	TEMP Celle
1/5/09	AM 1000	400	30	1.82		
	24	430	"	1.827	91.2	76.5
					91.2	

Discharge 8

DATE	TIME	MIN.	AMPS	VOLTS 398	TEMP 398	TEMP Celle
1/5	AM 1023 —		open	1.58		
	1025	0	30	1.49		
	27	2	"	1.422		
	30	5	"	1.39		
	35	10	"	1.37		
	45	20	"	1.342		
	55	30	"	1.32		
	11.05	40	"	1.315		
	25	60	"	1.277	91.7	76.5
	45	80	"	1.257		
	12.05	100	"	1.24		
	25	120	"	1.222	92.2	76.5
	45	140	"	1.21		
	1.05	160	"	1.195		
	25	180	"	1.18	90	75
	45	200	"	1.165		
	2.05	220	"	1.155		
	25	240	"	1.14	89	74.5
	45	260	"	1.125		
	3.05	280	"	1.107		
	25	300	"	1.09	92	77.2

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	TEMP Celle
1-5-09	3.45	320	20	1.06		
	4.05	340	"	1.012		
	.04½	341½	"	1.00		-170.7

Charge #9

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	TEMP Celle
	PM					
1-5-09	4.45	0	30	1.40	93	75.
	47	2	"	1.49		
	50	5	"	1.525		
	55	10	"	1.559		
	5.05	20	"	1.60		
	15	30	"	1.622		
	25	40	"	1.66		
	45	60	"	1.647	91.7	75
	6.05	80	"	1.64		
	25	100	"	1.652		
	45	120	"	1.637	91	75.2
	7.05	140	"	1.64		
	25	160	"	1.657		
	45	180	"	1.665	90.5	75.5
	8.05	200	"	1.67		
	25	220	"	1.68		
	45	240	"	1.685	89.2	75.7
	9.05	260	"	1.69		
	25	280	"	1.707		
	45	300	"	1.72	88.5	

DATE	TIME	MIN	AMP	VOLTS	TEMP 398	TEMP Slide
	PM					
1-5-9	10.05	220	30	174		
	.25	240	"	1775		
	.45	260	"	180	87.7	76
	11.05	280	"	182		
	.25	400	"	183		
	.40	420	"	164	92.5	77
					90.7	
	PM			Discharge		
1/5	11.45	-	1/5	155		
	.55	0	30	145		
	.52	2	"	142.2		
	.55	5	"	1525		
	AM					
1/6	12.00	10	"	137		
	.10	20	"	134.2		
	.20	30	"	132		
	.30	40	"	131		
	.50	60	"	128	93	77
	1.10	80	"	125.5		
	.30	100	"	124		
	.50	120	"	123	93	77
	2.10	140	"	121		
	.50	160	"	119.7		
	.50	180	"	119	93.3	77.2
	3.10	200	"	117.5		
	.30	220	"	116.5		

DATE	TIME	MIN	AMP	VOLTS	TEMP 398	TEMP Slide
	AM					
1/6/59	3.50	240	30	115	94	77
	4.10	260	"	113		
	.30	280	"	111.7		
	.50	300	"	110.2	95	76.5
	5.10	320	"	107		
	.20	330	"	105.7		
	.30	340	"	103		
	.40	350	"	100		-175
1/6				Charge		
	AM					
	6.00	0	30	144	95	75
	.02	2	"	145.2		
	.05	5	"	154		
	.10	10	"	154		
	.20	20	"	157		
	.30	30	"	162.5		
	.40	40	"	165		
	7.00	60	"	163	91	75
	.20	80	"	166		
	.40	100	"	166		
	8.00	120	"	166.5	87.7	76
	.20	140	"	167		
	.40	160	"	167		

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Adlee
	AM					
1/6/19	9.00	180	30	1.675	86.	75.5
	20	200	"	1.68		
	40	220	"	1.682		
	1000	240	"	1.692	85.7	75
	20	260	"	1.70		
	40	280	"	1.71		
	11.00	300	"	1.72	86	75.5
	20	320	"	1.742		
	40	340	"	1.797		
	1200	360	"	1.797	86.7	76
	20	380	"	1.82		
	40	400	"	1.845		
	1.00	420	"	1.863	88.7	76
				ok		
				8863		
			Discharge # 10			
	PM					
1-6-9	1.02	—	open	1.69		
	.05	0	30	1.509		
	.07	2	"	1.42		
	.10	5	"	1.372		
	.15	10	"	1.347		
	.25	20	"	1.34		
	.35	30	"	1.32		
	.45	40	"	1.30		
	2.05	60	"	1.275	90.5	76.2
	2	80	"	1.265		

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Adlee
	PM					
1-6-9	2.45	100	30	1.237		
	3.05	120	"	1.22	90	76.3
	.25	140	"	1.205		
	.45	160	"	1.197		
	4.05	180	"	1.192	89.5	76.2
	.25	200	"	1.172		
	.45	220	"	1.16		
	5.05	240	"	1.145	89.	75.5
	.25	260	"	1.13		
	.45	280	"	1.115		
	6.05	300	"	1.09	90.5	75
	.25	320	"	1.063		
	.45	340	"	1.022		
	.51	346	"	1.00		-173
				RF		
			Charge # 11			
	PM					
1-6-9	7.15	0	30	1.39	92.5	75
	.17	2	"	1.475		
	.20	5	"	1.497		
	.25	10	"	1.525		
	.35	20	"	1.55		
	.45	30	"	1.62		
	.55	40	"	1.65		
	8.15	100	"	1.65		75

DATE	TIME	MIN	AMP	VOLTS 398	TEMP 398	TEMP Glass	
1-6-9	PM 8.35	80	30	165.7			
	.55	100	"	162.7			
	9.15	120	"	162	89.2	75.2	
	.35	140	"	165.7			
	.55	160	"	166			
	10.15	180	"	166.5	89.2	75.2	
	.35	200	"	167			
	.55	220	"	168			
	11.15	240	"	169	86.5	75.2	
	.35	260	"	170.2			
	AM .55	280	"	171			
1/7	12.15	300	"	173	86	76.5	
	.35	320	"	175			
	.55	340	"	176.5			
	1.15	360	"	181	86.5	74.5	
	.35	380	"	183			
	.55	400	"	185			
	2.15	420	"	186.7	87.2	73.5	
					88.8		
				Discharge	"		
1/7	AM 2.18	—	open	160			
	.20	0	30	147			
	.22	2	"	140			
	.25	5	"	139.5			
	.30	10	"	137.5			

DATE	TIME	MIN	AMP	VOLTS 398	TEMP 398	TEMP Glass	
1/7/09	AM 2.40	20	30	134.5			
	.50	30	"	132.5			
	3.00	40	"	131			
	.20	60	"	127.7	87.5	74.2	
	.40	80	"	126			
	4.00	100	"	124			
	.20	120	"	123	88	73	
	.40	140	"	121.7			
	5.00	160	"	120.2			
	.20	180	"	119	89	73.5	
	.40	200	"	118			
	6.00	220	"	117			
	.20	240	"	115.7	91	74	
	.40	260	"	114.5			
	7.00	280	"	112.5			
	.20	300	"	111	93.7	74.5	
	.40	320	"	108			
	8.00	340	"	104.7			
	.10	350	"	101.7			
	.15	355	"	100			-177.5

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP. 398	TEMP. Adde
			Charge		°F 12	
1/7/09	AM 8.40	0	30	1.422	93.7	74.5
	.42	2	"	1.47		
	.45	5	"	1.502		
	.50	10	"	1.525		
	9.00	20	"	1.575		
	.10	30	"	1.612		
	.20	40	"	1.645		
	.40	60	"	1.66	92.5	75.5
	1.000	80	"	1.655		
	.20	100	"	1.652		
	.40	120	"	1.652	89.5	74.5
	11.00	140	"	1.655		
	.20	160	"	1.662		
	.40	180	"	1.67	88	74.5
	12.00	200	"	1.675		
	.20	220	"	1.677		
	.40	240	"	1.68	88	74.5
	1.00	260	"	1.69		
	.20	280	"	1.703		
	.40	300	"	1.717	89	75
	2.00	320	"	1.727		
	.20	340	"	1.76		
	.40	360	"	1.785	90	75
	3.00	380	"	1.80		

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP. 398	TEMP. Adde
1/7/09	PM 3.20	400	30	1.825		
	.40	420	"	1.84	92	76
					(903)	
				time charge = 12		
1/7/09	PM 3.43	—	0 hrs	1.58		
	.45	0	30	1.50		
	.47	2	"	1.43		
	.50	5	"	1.387		
	.55	10	"	1.363		
	4.05	20	"	1.34		
	.15	30	"	1.32		
	.35	40	"	1.302		
	.45	60	"	1.277	91.7	77
	5.05	80	"	1.255		
	.25	100	"	1.237		
	.45	120	"	1.225	91.7	77
	6.05	140	"	1.21		
	.25	160	"	1.202		
	.45	180	"	1.193	92	77
	7.05	200	"	1.175		
	.25	220	"	1.165		
	.45	240	"	1.157	92	77
	8.05	260	"	1.147		
	.25	280	"	1.14		
	.45	300	"	1.135		

Date	Time	Min.	Amp	Volts	Temp.	Temp. dilla	
	PM						
1-7-9	9.00	320	30	1.177			
	.25	240	"	1.025			
	.35	250	"	1.00			-1.75
			Change #13				
	PM						
1-7-9	9.50	0	30	1.40	95.2	77.5	
	.52	2	"	1.45			
	.55	5	"	1.475			
	10.00	10	"	1.515			
	.10	20	"	1.57			
	.20	30	"	1.61			
	.30	40	"	1.64			
	.50	60	"	1.66	94	77	
	11.10	90	"	1.655			
	.30	100	"	1.655			
	.50	120	"	1.657	81.5	76.5	
1/8	AM 12.10	140	"	1.66			
	.30	160	"	1.665			
	.50	180	"	1.665	87.5	76.5	
	1.10	200	"	1.67			
	.30	220	"	1.68			
	.50	240	"	1.69	87	76.2	
	2.10	260	"	1.697			
	.30	280	"	1.71			
	.50	300	"	1.722	87	75.7	

Date	Time	Min.	Amp	Volts	Temp.	Temp. dilla	
	AM						
1/8/9	3.15	320	20	1.74			
	.30	340	"	1.765			
	.50	360	"	1.795	87.5	75	
	4.10	380	"	1.815			
	.30	400	"	1.837			
	.50	420	"	1.85	88	74.2	
					89.3		
			Discharge #13				
1/8	AM 9.55	—	open	1.59			
	.55	0	30	1.54			
	.57	2	"	1.422			
	10.00	5	"	1.39			
	.10	10	"	1.37			
	.25	20	"	1.345			
	.35	30	"	1.322			
	.55	40	"	1.31			
	.55	60	"	1.277	87.2	73.5	
	11.15	80	"	1.26			
	.35	100	"	1.24			
	.55	120	"	1.22	77.5	72.5	
	12.15	140	"	1.215			
	.35	160	"	1.207			
	.55	180	"	1.19	88	73	
	1.15	200	"	1.18			
	.34	220	"	1.167			

DATE	TIME	MIN	AMP	VOLTS	TEMP		
					398	398	
1/8/09	8.55	240	20	1.15	89.	73	
	9.15	260	"	1.14			
	.25	280	"	1.125			
	.35	300	"	1.115	907	73	
	10.15	320	"	1.082			
	.25	330	"	1.065			
	.35	340	"	1.045			
	.45	350	"	1.019			
	51	356	"	1.00			-178
	54	356½	"	.999	942	73	
				Charge 14			
1/8	AM 11.10	0	20	1.452	947	735	
	.12	2	"	1.46			
	.15	5	"	1.495			
	.20	10	"	1.52			
	.30	20	"	1.57			
	.40	30	"	1.607			
	.50	40	"	1.635			
	12.10	60	"	1.657	942	75	
	.30	80		1.65			
	.50	100	"	1.642			
	1.10	120	"	1.65	917	76	
	.30	140	"	1.65			

DATE	TIME	MIN	AMPS	VOLTS	TEMP		
				398	398	398	
1-8-09	PM. 1.50	160	20	1.65			
	2.10	180	"	1.662	91	77	
	.30	200	"	1.665			
	.50	220	"	1.672			
	3.10	240	"	1.68	907	775	
	.30	260	"	1.687			
	.50	280	"	1.695			
	4.10	300	"	1.705	91	777	
	.30	320	"	1.725			
	.50	340	"	1.765			
	5.10	360	"	1.79	91	772	
	.30	380	"	1.815			
	.50	400	"	1.837			
	6.10	420	"	1.94	91	79	
					910		
				Coinlcharge 14			
1/9/09	p.m. 6.13	—	off	1.525			
	.15	0	20	1.502			
	.17	2	"	1.43			
	.20	5	"	1.385			
	.25	10	"	1.362			
	.35	20	"	1.337			
	.45	30	"	1.32			
	.55	40	"	1.30			
	7.15	60	"	1.297	923	79	

DATE	TIME	MIN.	AMP	VOLTS	TEMP 39?	TEMP 79? side
	PM.					
1-8-09	7.35	30	20	1.26		
	.55	100	"	1.11		
	8.15	120	"	1.223	97.7	79.7
	.35	140	"	1.215		
	.55	160	"	1.20		
	9.15	180	"	1.192	95.5	79.5
	.35	200	"	1.18		
	.55	220	"	1.167		
	10.15	240	"	1.157	97.2	79.7
	.35	260	"	1.142		
	.55	280	"	1.125		
	11.15	300	"	1.117	99.5	85.5
	.35	320	"	109		
	.55	340	"	105.5		
1/9	12.05	360	"	102		
	.15	380	"	100		-179

DATE	TIME	MIN.	AMP	VOLTS 39?	TEMP 79? side
1/9/09	AM			Charge	N
	12.55	0	30	143	100 83.5
	.57	2	"	147	
	1.05	5	"	149.7	
	1.05	10	"	153	
	.15	20	"	157	
	.25	30	"	161	
	.35	40	"	163.7	
	.45	60	"	165	97 83
	2.15	80	"	164.5	
	.35	100	"	164	
	.55	120	"	164.2	94.5 82.5
	3.15	140	"	165	
	.35	160	"	165	
	.55	180	"	165	93 82
	4.15	200	"	166.2	
	.35	220	"	167	
	.55	240	"	167.5	91.5 81
	5.15	260	"	168.2	
	.35	280	"	170.2	
	.55	300	"	171	90.7 80.5
	6.15	320	"	172	
	.35	340	"	172.2	
	.55	360	"	177	90.5 80
	7.15	380	"	179	

DATE	TIME	MIN.	AMP	VOLTS	TEMP 3rd	TEMP 2nd	elec
1/3/09	AM 7.35	400	30	182			
	55	420	"	183	90	79.7	
					934		
				Discharge			
1/7	AM 7.55	–	30	139.5			
	8.00	0	30	130.2			
	.02	2	"	132.4			
	.05	5	"	139			
	.10	10	"	136			
	.12	22	"	133.7			
	.30	30	"	132			
	.40	40	"	130.5			
	9.00	60	"	128	91.5	79.5	
	.20	80	"	126			
	.40	100	"	124.2			
	10.00	120	"	122.5	92.5	79.7	
	.20	140	"	121.5			
	.40	160	"	120.5			
	11.00	180	"	119.2	93	80	
	.20	200	"	118			
	.40	220	"	116.7			
	PM 12.00	240	"	115	94.5	79.7	
	.20	260	"	113.7			
	.40	280	"	112.7			
	1.00	300	"	110.7	95.5	80	

DATE	TIME	MIN.	AMP	VOLTS	TEMP 3rd	TEMP 2nd	elec
1/9/09	PM 1.20	320	30	108			
	40	340	"	103.2			
	.50	350	"	100			175
	.50½	350½	"	99.5	99.2	80	

Stood 41½ hours, over Sunday.

DATE	TIME	MIN.	AMP	VOLTS	TEMP 3rd	TEMP 2nd	elec
1/11				Charge			
	AM 7.30	0	30	174.5	70	70	
	.32	2	"	161			
	.35	5	"	164			
	.40	10	"	168			
	.50	20	"	172			
	8.00	30	"	173			
	.10	40	"	173			
	.20	50	"	171.7	73.7	70	
	.50	80	"	170.5			
	9.10	100	"	170			
	.30	120	"	169.5	76.7	70	
	.52	142	"	169.7			
	10.16	160	"	170			
	.30	180	"	171	78.7	70	
	.50	200	"	171.7			

DATE	TIME	MIN	AMP	VOLTS 398	TEMP 398	TEMP Idle	
1/11	AM 11.10	230	30	1.715			
	30	240	"	1.72	797	71	
	50	260	"	1.722			
	12.10	280	"	1.727			
	30	300	"	1.735	812	707	
	50	320	"	1.752			
	1.10	340	"	1.772			
	30	360	"	1.795	845	717	
	50	380	"	1.805			
	2.10	400	"	1.93			
	30	420	"	1.835	862	741	
					888		
			Drainage		16		
1-11-09	PM 2.33	–	off	1.592			
	35	0	30	1.505			
	37	2	"	1.52			
	40	5	"	1.529			
	42	10	"	1.247			
	55	20	"	1.34			
	3.05	30	"	1.32			
	15	40	"	1.30			
	35	60	"	1.32	90	74.2	
	55	80	"	1.26			
	4.15	100	"	1.242			
	35	120	"	1.222	89	74.7	

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Idle	
1-11-09	PM. 4.55	140	30	1.217			
	5.15	160	"	1.209			
	35	180	"	1.197	89	75.2	
	55	200	"	1.185			
	6.15	220	"	1.175			
	35	240	"	1.16	90	75.5	
	55	260	"	1.145			
	7.15	280	"	1.132			
	35	300	"	1.105	91.5	76	
	55	320	"	1.097			
	8.15	340	"	1.027			
	35	360	"	1.00			-173
	35	347	"	.992			

DATE	TIME	MIN.	AMP	VOLTS	TEMP Bag	TEMP Cable
			Charge #17			
1-11-09	PM 2:40	0	20	137	(92)	
	.42	2	"	147		
	.45	5	"	150		
	.50	10	"	155		
	3:00	20	"	158		
	.10	30	"	163		
	.20	40	"	164.2		
	.40	60	"	166	92.5	76
	4:00	80	"	165		
	.20	100	"	165.2		
	.40	120	"	165	94	76.5
	5:00	140	"	164		
	.20	160	"	166.2		
	.40	180	"	166.5	90.5	77
1/12	AM 12:00	200	"	167.7		
	.20	220	"	168		
	.40	240	"	169	90	77.7
	1:00	260	"	169.5		
	.20	280	"	171		
	.40	300	"	172	89	77.5
	2:00	320	"	174		
	.20	340	"	176.2		
	.40	360	"	179	88.2	77.5
	3:00	380	"	181.5		

DATE	TIME	MIN.	AMP	VOLTS Bag	TEMP Bag	TEMP Cable
1/12/09	AM 3:20	400	30	182.5		
	.40	420	"	183.5	89.5	77.5
					(91)	
			Discharge		#17	
1/12	AM 3:42	—	17/20	158.2		
	.45	0	31	151		
	.47	2	"	145		
	.50	5	"	137.7		
	.55	10	"	137		
	4:05	20	"	134		
	.15	30	"	132.5		
	.25	40	"	131		
	.45	50	"	127	90	77.5
	5:05	60	"	126		
	.25	100	"	125		
	.45	120	"	123.5	90.5	77
	6:05	140	"	122.5		
	.25	160	"	121.5		
	.45	180	"	121.2	91.2	77.2
	7:05	200	"	119		
	.25	220	"	117		
	.45	240	"	115	91.5	77
	8:05	260	"	113.7		
	.25	280	"	112.5		
	.45	300	"	111.2		

DATE	TIME	MIN	AMPS	VOLTS 39%	TEMPS 39%	TEMPS Idle
	AM					
1/12/09	9.05	320	30	1.09	92	77
	25	340	"	1.042		
	31	346	"	1.027		
	35	350	"	1.007		
	37	352	"	1.00		
						-176
			Charge	18		
	AM					
1/12/09	9.55	0	30	1.412		
	57	2	"	1.46		
	1000	5	"	1.485		
	05	10	"	1.52		
	15	20	"	1.575	92.2	77
	25	30	"	1.62		
	35	40	"	1.65		
	55	60	"	1.66	91.2	77
	11 15	80	"	1.655		
	35	100	"	1.652		
	55	120	"	1.657	89	77
	12 15	140	"	1.66		
	37	162	"	1.662		
	55	180	"	1.662	87.7	76.7
	1.15	200	"	1.677		
	35	220	"	1.69		
	55	240	"	1.692	87	76.2

DATE	TIME	MIN	AMPS	VOLTS 39%	TEMP 39%	TEMP Idle
	PM.					
1-12-09	2.15	260	20	1.70		
	35	280	"	1.71		
	55	300	"	1.725	86.5	76
	3.15	320	"	1.745		
	35	340	"	1.782		
	55	360	"	1.802	87	76
	4.15	380	"	1.82		
	35	400	"	1.84		
	55	420	"	1.84	87.2	76
					88.6	
			Discharge	18		
	PM.					
1-11-	4.52	-	off	1.685		
	5.00	0	20	1.60		
	02	2	"	1.625		
	05	5	"	1.39		
	10	10	"	1.37		
	20	20	"	1.34		
	30	30	"	1.325		
	40	40	"	1.31		
	6.00	60	"	1.297	87.7	76
	20	80	"	1.26		
	40	100	"	1.24		
	7.00	120	"	1.227	89	76
	20	140	"	1.219		
	40	160	"	1.205		

DATE	TIME	MIN.	AMP.	VOLTS 298	TEMP 298	TEMP alder
1-12-	PM 8:00	180	20	1.195	90	76.2
	.20	200	"	1.127		
	.40	220	"	1.175		
	9.00	240	"	1.16	91.5	76.2
	.20	260	"	1.15		
	.40	280	"	1.135		
	10.00	300	"	1.115	93	76.7
	.20	320	"	1.089		
	.40	340	"	1.042		
	.53	353	"	1.00		-1.645
				Discharge		= 19
1/12	PM 11.15	0	30	141.7	94.5	78.5
	.17	2	"	1.46		
	.20	5	"	149		
	.25	10	"	152		
	.35	20	"	157.5		
	.45	30	"	161.5		
	.55	40	"	164		
1/13	AM 12.15	60	"	165	94	73.2
	.35	80	"	164.5		
	.55	100	"	164.2		
	1.15	120	"	165	90.5	78.5

DATE	TIME	MIN.	AMP	VOLTS 298	TEMP 298	TEMP alder
1/13/19	AM 1.35	141	30	1.55		
	.55	160	"	1.557		
	2.15	180	"	1.662	89	78.5
	.35	200	"	1.7		
	.55	220	"	1.65		
	3.15	240	"	1.685	87.5	77.2
	.35	260	"	1.697		
	.55	280	"	1.71		
	4.15	300	"	1.725	86.5	77
	.35	320	"	1.735		
	.55	340	"	1.762		
	5.15	360	"	1.79	86	76
	.35	380	"	1.82		
	.55	400	"	1.84		
	6.15	420	"	1.85	87	75
				Discharge		= 19
1/13	AM 6.18	—	1/2	1.59		
	.20	0	30	1.51		
	.22	2	"	1.422		
	.25	5	"	1.39		
	.30	10	"	1.37		
	6.40	20	"	1.34		
	7.00	30	"	1.322		
	7.00	40	"	1.31		

DATE	TIME	MIN.	AMPS	VOLTS	TEMP 398	TEMP Idle	
1/14	7.20	60	30	1.22	91.5	74	
	.40	80	"	1.22			
	8.00	100	"	1.24			
	.20	120	"	1.227	92	74	
	.40	140	"	1.215			
	9.00	160	"	1.205			
	.20	180	"	1.192	86.5	74	
	.40	200	"	1.185			
	10.00	220	"	1.17			
	.20	240	"	1.162	87	74	
	.40	260	"	1.142			
	11.00	280	"	1.13			
	.20	300	"	1.11	88.5	74.5	
	.40	320	"	1.08			
	.50	330	"	1.062			
	12.00	340	"	1.04			
	.10	350	"	1.012			
	" 13	352	"	1.00	91	75	— 176.5
	PM		Charge 20				
1/13	12.25	0	30				
	55	30	"		92	75	
	2.55	150	"		87	75.2	
	4.55	270	"		85.5	75.5	

DATE	TIME	MIN.	AMP	VOLTS	TEMP 398	TEMP Idle	
1/13	6.55	390	30		89	75	
	8.55	510	"		93	76	
	10.55	630	"		94.5	77.2	
	12.55	750	"		94	77	
	2.55	870	"		94	75.5	
	3.25	900	"	1.45			— .15 lus.
					91.2		
1/14	AM			Discharge			20
	3.25	—	30	1.60			
	.30	0	30	1.51			
	.32	2	"	1.44			
	.35	5	"	1.41			
	.40	10	"	1.38.2			
	.50	20	"	1.36			
	4.00	30	"	1.34			
	1.10	40	"	1.32.2			
	5.00	60	"	1.29.7	91.5	74.5	
	.50	80	"	1.27			
	6.10	100	"	1.26			
	.30	120	"	1.24.5	91	74.5	
	.50	140	"	1.23			
	7.10	160	"	1.22			
	7.30	180	"	1.21	91.2	74.2	
	.50	200	"	1.20.2			
	8.10	220	"	1.19			

DATE	TIME	MIN	AMP.	VOLTS 398	TEMP 398	TEMP 2000	
1/7/09	AM 7.20	240	30	118	90.5	74.5	
	.50	260	"	117			
	8.10	280	"	1.055			
	.30	300	"	114	90.5	73.5	
	.50	320	"	1.25			
	9.10	340	"	1.107			
	.30	360	"	1.082	90	74.	
	.50	380	"	1.067			
	10.05	395	"	1.057			
	.10	400	"	1.022			
	.15	405	"	1.015			
	.20	410	"	1.00			-205
	.25	415	"	.987			
	.30	420	"	.965	93	737	
	.35	425	"	.94			
	.40	430	"	.92			
	.45	435	"	.90			
	.50	440	"	.875			
	.55	445	"	.847			
	11.00	450	"	.782			
	.05	455	"	.67			
	.06½	456½	"	.50			-228.2

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Sola	
				Charge	+ 21		
1/8/09	AM 11.55	0	30				
	PM 12.25	30	"		94.5	73.7	
	2.25	150	"		92.2	75	
	4.25	270	"		92.2	75.2	
	6.25	390	"		92.5	75.5	
	8.25	510	"		92	76.2	
	10.25	630	"		92.7	76.5	
1/9	AM 12.25	750	"		92.7	74	
	2.25	870	"		95	74.5	
	5.5	900	"	124.5			
				(94)			
				Discharge	#21		
1/9	AM 2.55	—	30	150			
	3.00	0	30	151			
	10.2	2	"	143			
	10.5	5	"	140			
	11.0	10	"	138			
	11.20	20	"	135			
	11.30	30	"	133			
	12.2	42	"	132			
	1.00	60	"	128	92	73.2	
	1.30	90	"	126			
	2.00	120	"	124.5			
	5.00	180	"	123		73	

DATE	TIME	MIN.	AMP	VOLTS	TEMP 398	TEMP 398	TEMP cold	
8/10/09	5.20	140	30	1.222				
	.40	150	"	1.212				
	6.00	160	"	1.202	90	73		
	.20	200	"	1.195				
	.40	220	"	1.185				
	7.00	240	"	1.175	87.2	73		
	.20	260	"	1.165				
	.40	280	"	1.15				
	8.00	300	"	1.14	89	72		
	.20	320	"	1.122				
	.40	340	"	1.112				
	9.00	360	"	1.092	91.2	72		
	.20	380	"	1.072				
	.30	390	"	1.061				
	.40	400	"	1.042				
	.50	410	"	1.022				
	57	417	"	1.00				−208.5
	10.00	420	"	.982	94.7	72		
	.10	430	"	.932				
	.20	440	"	.817				
	.27	447	"	.50				−223.5

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	TEMP cold	DEG. ABOVE ICE
				Change 22			
8/10/09	AM 11.35	0	30	1.52	94.7	73	21.7
	37	2	"	1.555			Oxidized, H_2O
	40	5	"	1.562			
	45	10	"	1.582			
	55	20	"	1.617			
	12.05	30	"	1.64			
	.15	40	"	1.658			
	.25	50	"	1.665			
	.35	60	"	1.677	92.7	74.2	18.5
	.55	80	"	1.67			
	1.15	100	"	1.662			
	.35	120	"	1.66	90.5	74.5	16
	.55	140	"	1.663			
	2.15	160	"	1.663			
	.35	180	"	1.667	89.5	75	14.5
	.55	200	"	1.672			
	3.15	220	"	1.675			
	.35	240	"	1.68	88.5	76	12.5
	.55	260	"	1.682			
	4.15	280	"	1.69			
	.35	300	"	1.697	87.7	77	10.7
	.55	320	"	1.70			
	5.15	340	"	1.702			
	.35	360	"	1.702	87.7	77.2	10.5

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	TEMP Volts	DEG. ABOVE ISLE
1-15-09	PM 5.55	780	20	173			
	6.15	400	"	175			
	.35	420	"	177	92.3	77.2	16.1
	.55	440	"	179.7			
	7.15	460	"	180.5			
	.35	480	"	182.7	89.2	77.2	12
	.55	500	"	185.2			
	8.15	520	"	184.7			
	.35	540	"	184.7	91	77.5	13.5
	.55	560	"	184.5			
	9.15	580	"	184.5			
	.35	600	"	185	92.5	77.5	15
	.55	620	"	185			
	10.15	640	"	184.2			
	.35	660	"	184.2	93.7	77.5	16.2
	.55	680	"	184.2			
	11.15	700	"	184			
	.35	720	"	184.2	94.5	78.5	16
	.55	740	"	184			
1/16	AM 12.15	760	"	184.1			
	.35	780	"	183.7	96	79	17
	.55	800	"	183.7			
	1.15	820	"	184			
	.35	840	"	184	96	78.7	17.2
	.55	860	"	184.1			

11

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	TEMP Volts	DEG. ABOVE ISLE
1/16/09	AM 2.15	880	30	184			
	.35	900	"	184.2	95	77.7	17.3
					96.7		
				Drinking	22		
1/16	AM 2.35	—	off	154			17.3
	.15	0	30	151			
	.45	5	"	142.2			
	.45	15	"	139			
	.50	10	"	137			
	3.00	20	"	135			
	.10	30	"	133			
	.20	40	"	128.5	92.7	76.5	16.2
	.40	60	"	128.2			
	4.00	80	"	127	92	75.5	16.5
	.20	100	"	125			
	.40	120	"	123	90	75.5	16.5
	5.00	140	"	122			
	.20	160	"	121	87.5	74.5	13
	.40	180	"	120.2			
	6.00	200	"	119.5	92	74	18
	.20	220	"	118.5			
	.40	240	"	117	88.5	74	14.5
	7.00	260	"	116			
	.20	280	"	115	89	73	16
	.40	300	"	114			

DATE	TIME	MIN	AMPS	VOLTS 39F	TEMPS 39F	TEMPS 3DEG	DEG ABOVE 12DEG	
1/16/29	AM 1.35	320	30	112.5	89	73	16	
	.20	340	"	111				
	.40	360	"	1.092	89.7	73	16.7	
	9.00	380	"	1.07				
	.10	390	"	1.055				
	.30	410	"	1.04	92.2	73	19.2	
	.30	410	"	1.017				
	.35	415	"	1.00				-208
	.40	420	"	.98				
	.50	430	"	.902				
	10.00	440	"	.597				
	.03	443	"	.50	96	73	23	-221.5
				0			0	

Stood 52½ hours over Sunday

DATE	TIME	MIN	AMPS	VOLTS 39F	TEMPS 39F	TEMPS Bulb
1/16/29	AM			Change		23
	4.30	0	30	163	71.5	74.5
	.32	2	"	165		
	.35	5	"	166.5		
	.40	10	"	168		
	.50	20	"	170.5		
	5.00	30	"	172		
	.10	40	"	172.2		
	.30	60	"	170	77	72.5
	.50	80	"	169		
	6.10	100	"	168.2		
	.30	120	"	168.5	80.5	73
	.50	140	"	168.2		0
	7.10	160	"	168.2		
	.30	180	"	169	81.5	73.5
	.50	200	"	169		
	8.10	220	"	169.5		
	.30	240	"	169.7	83	73.2
	.50	260	"	170		
	9.10	280	"	170.7		
	.30	300	"	170.7	83.7	73.2
	.50	320	"	171.5		
	10.10	340	"	172.2		
	.30	360	"	173	84	73
	.50	380	"	174		

DATE	TIME	MIN.	AMP.	VOLTS 398.	TEMP 398	TEMP 404	
	PM						
1-18-09	1.10	400	30	1.76			
	.20	420	"	1.777	86	73.2	
					303		
			Discharge		#	23	
	AM						
1-19-09	11.30	–	off	1.52			
	.35	0	30	1.50			
	.37	2	"	1.422			
	.40	5	"	1.325			
	.45	10	"	1.362			
	.55	20	"	1.337			
	PM						
	12.05	30	"	1.318			
	.15	40	"	1.30			
	.35	60	"	1.28	85.7	72.7	
	.55	80	"	1.26			
	1.15	100	"	1.242			
	.35	120	"	1.23	84.7	74	
	.55	140	"	1.22			
	2.15	160	"	1.205			
	.35	180	"	1.195	87.7	74.2	
	.55	200	"	1.192			
	3.15	220	"	1.18			
	.35	240	"	1.17	90.5	75	
	.55	260	"	1.16			
	4.15	280	"	1.145			
	.35	300	"	1.127	92	76	

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	TEMP 404	
	PM						
1/18/09	4.55	320	30	1.097			
	5.15	340	"	1.057			
	.20	345	"	1.02			
	.22½	347½	"	1.00	93.	77.	173.7
			Charge	#	24		
1/18	PM						
	5.30	0	30	1.40	93.2	77	
	.32	2	"	1.48			
	.35	5	"	1.512			
	.40	10	"	1.542			
	.50	20	"	1.59			
	6.00	30	"	1.627			
	.10	40	"	1.65			
	.30	60	"	1.66	94.2	77.5	
	.50	80	"	1.652			
	7.10	100	"	1.652			
	.30	120	"	1.65	91.7	78	
	.50	140	"	1.65			
	8.10	160	"	1.655			
	.30	180	"	1.66	90	78	
	.50	200	"	1.665			
	9.10	220	"	1.677			
	.30	240	"	1.682	89.5	78	
	.50	260	"	1.697			

DATE	TIME	MIN	AMPS	VOLTS 39%	TEMP 39%	TEMP Bulk	
1/18/09	PM 10.10	280	30	1.70			
	.15	300	"	172	89.	77.7	
	.20	320	"	174			
	11.10	340	"	176			
	.30	360	"	178	90	78	
	.40	380	"	179			
1/19	AM 12.10	400	"	180			
	.20	420	"	181	90.5	77.5	
					(91)		
				Discharge		24	
1/19	AM 12.22	—	per	182			
	.25	0	30	150.5			
	.27	2	"	141.5			
	.32	5	"	138			
	.45	10	"	137			
	.55	20	"	133			
	1.05	30	"	132.5			
	.15	40	"	130			
	.25	50	"	127.7	90	76.5	
	.35	60	"	126.7			
	2.15	100	"	124.2			
	.35	120	"	122.5	89	75.5	
	.55	140	"	121.7			
	3.15	160	"	120.5			
	.35	180	"	119.7	88	75	

DATE	TIME	MIN	AMPS	VOLTS 39%	TEMP 39%	TEMP Bulk	
1/19/09	AM 3.55	200	30	119			
	4.15	220	"	118.2			
	.35	240	"	117.	89.2	75	
	.55	260	"	116.			
	5.15	280	"	114.5			
	.35	300	"	113	92	75	
	.55	320	"	111.5			
	6.05	330	"	110.2			
	.25	350	"	106.			
	.35	360	"	102.7	92	74.5	
	.40	365	"	100			-182.5
1/19	AM			Charge	+	25	
	6.50	0	30	142	92.5	74.2	
	.52	2	"	147.7			
	.57	5	"	150			
	7.00	10	"	153			
	.10	20	"	154.1			
	.20	30	"	162			
	.30	40	"	165			
	.50	60	"	165	92	74.5	
	8.10	80	"	165			
	.30	100	"	165			

DATE	TIME	MIN.	AMP	VOLTS Zng.	TEMP Zng	TEMP Wdke
1-19-09	8.50	120	30	1645	90	75
	9.10	140	"	1669		
	.30	160	"	1655		
	.50	180	"	1.66	89.2	75
	10.10	200	"	1669		
	.30	220	"	1675		
	.50	240	"	1.68	89.5	75
	11.10	260	"	1.69		
	.30	280	"	1.72		
	.50	300	"	1.719	88	75
	PM 12.10	320	"	1.74		
	.30	340	"	1.76		
	.50	360	"	1.79	89.2	76.2
	1.10	380	"	1.812		
	.30	400	"	1.822		
	.50	420	"	1.827	90.5	76.5
					(89.6)	
				Discharge		25
	PM					
1/19/	1.53	—	open	1.582		
	.55	0	30	1.505		
	.57	2	"	1.412		
	2.00	5	"	1.382		
	.05	10	"	1.367		
	.15	20	"	1.337		
	.25	30	"	1.332		

DATE	TIME	MIN.	AMP	VOLTS Zng	TEMP Zng	TEMP Wdke	
1/19/08	PM 2.35	40	30	1.307			
	.55	60	"	1.29	90.5	76.2	
	3.15	80	"	1.275			
	.35	100	"	1.269			
	.55	120	"	1.237	91	76.2	
	4.15	140	"	1.225			
	.35	160	"	1.218			
	.55	180	"	1.21	91	76	
	5.15	200	"	1.207			
	.35	220	"	1.19			
	.55	240	"	1.18	92	76	
	6.15	260	"	1.165			
	.35	280	"	1.15			
	.55	300	"	1.132	93.2	76	
	7.15	320	"	1.11			
	.35	330	"	1.10			
	.35	340	"	1.082			
	.45	350	"	1.057			
	.55	360	"	1.037	94.7	76	
	8.00	365	"	1.01			
	.02	367	"	1.00			-183.5

DATE	TIME	MIN.	AMP	VOLTS	TEMP.	
				Charge # 26		
1/19/09	PM 8 15	0	30	1.405	97.	76
	17	2	"	1.462		
	20	5	"	1.475		
	25	10	"	1.51		
	35	20	"	1.572		
	45	30	"	1.595		
	55	40	"	1.615		
	9.15	60	"	1.65	95.5	76
	35	80	"	1.642		
	55	100	"	1.642		
	10.15	120	"	1.642	97.5	76
	35	140	"	1.645		
	55	160	"	1.647		
	11.15	180	"	1.65	91.2	76.7
	35	200	"	166		
	55	220	"	166		
1/20	AM 12.15	240	"	168	89.5	76.2
	35	260	"	1.68		
	55	280	"	170		
	1.15	300	"	171.7	88	75.5
	35	320	"	173		
	55	340	"	175		
	2.15	360	"	178	90	74.5
	35	380	"	1.802		

DATE	TIME	MIN.	AMP	VOLTS	TEMP.	
1/20/09	AM 2.55	400	30	182		
	3.15	420	"	183	89 (91.7)	74.5
				Discharge # 26		
1/20	AM 1.15	—	0 for	159		
	20	0	30	150		
	22	2	"	142.5		
	25	5	"	138.5		
	30	10	"	137		
	40	20	"	134		
	50	30	"	133		
	4.00	40	"	130.5		
	20	60	"	128	89.5	75
	40	80	"	126		
	5.00	100	"	124.5		
	20	120	"	123	89.2	74.7
	40	140	"	122		
	6.00	160	"	121		
	20	180	"	120	89.2	74.5
	40	200	"	119		
	7.00	220	"	118.5		
	20	240	"	117	89.5	74.5
	40	260	"	116.2		
	8.00	280	"	115		
	20	300	"	113	91.7	74.5

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Adle	
1/20/09	AM 8:45	320	30	111			
	900	340	"	1.09			
	.10	350	"	1.06			
	.20	360	"	1.022			
	.25	365	"	1.002			
	25½	365½	"	1.00			-1827
				Change # 27			
1-20-09	AM 1.030	0	10	1.34	90.9	75.2	
	.34	4	"	1.40			
	.40	10	"	1.412			
	.50	20	"	1.477			
	11.00	30	"	1.442			
	.10	40	"	1.46			
	.30	60	"	1.492	97	76	
	.50	80	"	1.512			
	PM 12.10	100	"	1.525			
	.30	120	"	1.55	92.5	76.5	
	.50	140	"	1.575			
	1.10	160	"	1.59			
	.30	180	"	1.592	84.5	78	
	.51	201	"	1.595			
	2.10	220	"	1.595			
	.30	240	"	1.595	84	78	

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Adle	
1/20/09	PM 2.50	260	10	1.592			
	3.10	280	"	1.59			
	.30	300	"	1.59	93	78.2	
	.50	320	"	1.59			
	4.10	340	"	1.592			
	.30	360	"	1.59	92.5	78.5	
	.50	380	"	1.59			
	5.10	400	"	1.59			
	.30	420	"	1.59	92	79	
	.50	440	"	1.59			
	6.10	460	"	1.59			
	.30	480	"	1.59	91.7	79	
	.50	500	"	1.59			
	7.10	520	"	1.59			
	.30	540	"	1.59	81	78.7	
	.50	560	"	1.591			
	8.10	580	"	1.592			
	.30	600	"	1.592	90	78.2	
	.50	620	"	1.592			
	9.10	640	"	1.595			
	.30	660	"	1.597	80.2	79.2	
	.50	680	"	1.605			
	10.10	700	"	1.605			
	.30	720	"	1.602	82.5	79.5	
	.50	740	"	1.60			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Idle	
1/21/89	PM 11:10	760	10	1230.5			
	1:30	720	"	161	71.5	73	
	150	800	"	161			
1/21	AM 12:10	820	"	161.7			
	30	840	"	162	71	73.7	
	50	860	"	162.2			
	1:10	880	"	162.5			
	30	900	"	163	80.5	79	
	50	920	"	164			
	2:10	940	"	164			
	30	960	"	165	79.2	77.5	
	50	980	"	165			
	3:10	1000	"	166			
	30	1020	"	166	78.5	75.2	
	50	1040	"	167.7			
	4:10	1060	"	168			
	30	1080	"	168.2	78.2	75.5	
	50	1100	"	169			
	5:10	1120	"	170			
	30	1140	"	170.2	78	75.5	
	50	1160	"	171			
	6:10	1180	"	171			
	30	1200	"	171.5	78	75	
	50	1220	"	172			
	7:10	1240	"	172			

DATE	TIME	MIN	AMP	VOLTS 395	TEMPS 398	Idle	
1/21/89	AM 7:30	1260	70	173	78	75	-21. lbs. @ 10.
					(81.4)		
				@ recharge			27
1/21	AM 7:33	—	0	158.5			
	35	0	30	150			
	37	2	"	141			
	40	5	"	135.5			
	45	10	"	133.5			
	55	20	"	131			
	8:05	30	"	129.5			
	15	40	"	128			
	35	60	"	126	81.2	74.2	
	55	80	"	124.2			
	9:15	100	"	123.7			
	35	120	"	122	83.7	74.2	
	55	140	"	121.2			
	10:16	171	"	120			
	35	190	"	119.8	86	74	
	55	210	"	119.2			
	11:15	230	"	118			
	35	250	"	117.2	87.2	74	
	55	270	"	116			
	12:15	290	"	115.2			
	35	310	"	115	91	74	
	55	330	"	114.7			

DATE	TIME	MIN.	AMP	VOLTS 294	TEMP. 292	TEMP. cellar	
1/21/09	PM 1:15	340	30	1.095			
	.25	360	"	1.05	92.2	74	
	.45	370	"	1.02			
	.49	374	"	1.00			-187
				Charge #28			
1-21-09	PM 2:00	0	10	1.29	95	74	
	.02	2	"	1.325			
	.05	5	"	1.359			
	.10	10	"	1.37			
	.20	20	"	1.395			
	.30	30	"	1.415			
	.40	40	"	1.422			
	.50	50	"	1.442	90	73	
	.70	80	"	1.495			
	.40	100	"	1.52			
	4.00	120	"	1.537	88	75	
	.20	140	"	1.56			
	.40	160	"	1.58			
	5.00	180	"	1.59	85.7	75.5	
	.20	200	"	1.592			
	.40	220	"	1.595			
	6.00	240	"	1.592	83.5	75.7	
	.20	260	"	1.59			
	.40	280	"	1.59			

DATE	TIME	MIN.	AMP	VOLTS 293	TEMP 292	TEMP cellar
1/21/09	PM 7.00	300	10	1.59	82.7	76
	.20	320	"	1.59		
	.40	340	"	1.59		
	8.00	360	"	1.59	82	76
	.20	380	"	1.587		
	.40	400	"	1.587		
	9.00	420	"	1.587	81.5	76.2
	.20	440	"	1.585		
	.40	460	"	1.585		
	10.00	480	"	1.585	81	76.5
	.20	500	"	1.587		
	.40	520	"	1.59		
	11.00	540	"	1.59	81.2	78
	.20	560	"	1.59		
	.40	580	"	1.597		
1-22	AM 12.00	600	"	1.59	81	78
	.20	620	"	1.597		
	.40	640	"	1.6		
	1.00	660	"	1.60	78.7	76.5
	.20	680	"	1.605		
	.40	700	"	1.605		
	2.00	720	"	1.61	79	77
	.20	740	"	1.61		
	.40	760	"	1.61		
	3.00	780	"	1.61	79	77

DATE	TIME	MIN.	AMP	VOLTS 3 ST	TEMP 3 ST	TEMP Water	
1/22/09	AM 7.20	700	10	161.5			
	.40	720	"	161.7			
	8.00	740	"	162	79	77	
	.20	760	"	162.5			
	.40	780	"	163			
	9.00	800	"	163.5	79	77	
	.20	820	"	164.2			
	.40	840	"	164			
	10.00	860	"	164.5	78.7	76.7	
	.20	880	"	165			
	.40	900	"	165.5			
	11.00	920	"	166.2	78	76.2	
	.20	940	"	167			
	.40	960	"	166.7			
	12.00	980	"	167.2	78	75.5	
	.20	1000	"	169			
	.40	1020	"	169.5			
	1.00	1040	"	170	78	75.2	
	.20	1060	"	170.5			
	.40	1080	"	170.5			
	10.00	1100	"	171.7	78	75.2	
	.20	1120	"	172			
	.40	1140	"	172			
	11.00	1160	"	172	77.2	75.5	-21 lbs @ 10
					78.6		

DATE	TIME	MIN.	AMP	VOLTS 3 ST	TEMP 3 ST	TEMP Water	
			Discharge 78				
1/22/09	PM 11.03	-	0 Amp	1.58			
	.05	0	20	1.50			
	.07	2	"	1.40			
	.10	5	"	1.337			
	.15	10	"	1.337			
	.25	20	"	1.315			
	.35	30	"	1.30			
	.45	40	"	1.295			
	PM 12.05	60	"	1.26	84.5	76	
	.25	80	"	1.245			
	.45	100	"	1.235			
	1.05	120	"	1.22	87.2	76.2	
	.25	140	"	1.21			
	.45	160	"	1.20			
	2.05	180	"	1.19	87.7	76.2	
	.25	200	"	1.18			
	.45	220	"	1.172			
	3.05	240	"	1.167	87.7	74.5	
	.25	260	"	1.155			
	.45	280	"	1.137			
	4.05	300	"	1.117	91	74	
	.25	320	"	1.097			
	.35	330	"	1.082			
	.45	340		1.067			

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	TEMP Solle		
1/22/09	PM 4.55	350	70	1.057				
	5.00	355	"	1.045				
	.05	360	"	1.037	94	74		
	.10	365	"	1.022				
	.15	370	"	1.00			-185	

Charge #29

DATE	TIME	MIN.	AMP	VOLTS 398	7e	9ii	TEMP 398	TEMP Solle	
1/22/09	PM 5.35	0	10	1.317	1.37	.062	94.2 (208)	74	Electrode 1
	37	2	"	1.362	1.40	.047			105 gm 060
	40	5	"	1.371	1.41	.045			1 = 56
	45	10	"	1.381	1.412	.037			
	.55	20	"	1.397	1.417	.025			
	6.05	30	"	1.417	1.425	.01			
	.15	40	"	1.444	1.432	.005	(4)		
	35	60	"	1.467	1.45	.017	88	74	
	55	80	"	1.502	1.465	.032			
	7.15	100	"	1.527	1.475	.042	(28)		
	.35	120	"	1.55	1.485	.052	85	74	
	55	140	"	1.57	1.492	.062			
	8.15	160	"	1.586	1.502	.071	(10)		
	.35	180	"	1.595	1.51	.075	85	76	
	.55	200	"	1.599	1.51	.078			
	9.15	220	"	1.597	1.51	.077			

DATE	TIME	MIN.	AMP	VOLTS 398	7e	9ii	TEMP 398	TEMP Solle
1/22/09	PM 9.35	240	10	1.595	1.506	.078	84 (80)	75.5
	55	260	"	1.593	1.502	.077		
	10.10	280	"	1.591	1.50	.077	(2)	
	35	300	"	1.59	1.50	.077	83	76
	55	320	"	1.59	1.497	.08		
	11.15	340	"	1.592	1.492	.081	(57)	
	.35	360	"	1.586	1.49	.08	72.7	77
	.55	380	"	1.59	1.49	.081		
	12.15	400	"	1.586	1.49	.08	(85)	
	.35	420	"	1.59	1.491	.081	82.5	78
	.55	440	"	1.59	1.491	.081		
	1.15	460	"	1.59	1.491	.081	(1)	
	.35	480	"	1.59	1.494	.09	82	77
	.55	500	"	1.59	1.494	.09		
	2.15	520	"	1.59	1.497	.09	85	
	.35	540	"	1.59.1	1.497	.09.1	81	77.5
	.55	560	"	1.59.1	1.498	.09.1		
	3.15	580	"	1.59.9	1.499	.10	(3)	
	.35	600	"	1.59.9	1.499	.10	80	76.7
	.55	620	"	1.59.9	1.499	.10.1		
	4.15	640	"	1.60	1.500	.10.1	(3)	
	.35	660	"	1.60	1.501	.10.1	79.5	76.5
	.55	680	"	1.60.2	1.502	.10.1		
	5.15	700	"	1.60.2	1.502	.10.1	(25)	
	.35	720	"	1.60.2	1.503	.10.1		

DATE	TIME	MIN.	AMP	VOLTS 398	VOLTS 7c	VOLTS 7N	TEMPS 398	TEMPS Solle	
1/23/79	AM 6:55	740	10	161	147	11.9			
	6:55	760	"	161	147.7	12		2.7	
	7:00	780	"	161	147.5	12.1	79.7	77	
	05	800	"	161.5	147.5	12.2			
	7:10	820	"	161.7	147.7	12.6			
	1:15	840	"	162	147.7	12	79.5	2.5 77	
	20	860	"	162.1	147	13			
	7:25	880	"	162	147.2	12.6			
	35	900	"	162.2	148	.14	79	2 77	
	55	920	"	162.2	148	.141			
	7:15	940	"	164	148	.145			
	35	960	"	164.2	148	.145	79.2	2.2 77	
	55	980	"	165	148.2	.157			
	10:15	1000	"	165.9	148.3	.157		1.8	
	35	1020	"	166	148.7	.160	78.5	77	
	55	1040	"	166.5	148.3	.160			
	11:15	1060	"	167.3	148.5	.165			
	35	1080	"	167.8	148.7	.177	78.9	2.2 76.5	
	55	1100	"	168.2	148.8	.177			
	PM 12:15	1120	"	168.5	148.2	.177			
	35	1140	"	168.7	148.5	.182	78.9	2.2 76.5	
	55	1160	"	168.8	148.5	.182			
	1:15	1180	"	168.7	148.7	.18			
	35	1200	"	168.5	148.8	.18	78.9	2.5 76.2	
	55	1220	"	168.8	148.7	.18			

DATE	TIME	MIN.	AMP	VOLTS 398	VOLTS 7c	VOLTS 7N	TEMP 398	TEMP Solle	
1-23-79	PM 2:15	1240	20	1.718	1.522	.19		1.518	
	35	1260	"	1.719	1.522	.181	79	75.2	
				AMP		a.c.	(81.7)		
						+ EMP			
				398	389 +	Solle			
				Discharge 29					
1-23	PM 2:38	—	open	1.577					
	2:40	0	30	1.48					
	42	2	"	1.39					
	45	5	"	1.35					
	50	10	"	1.332					
	3:00	20	"	1.312					
	10	30	"	1.29					
	20	40	"	1.279					
	40	60	"	1.257	83.	76.5			
	4:00	80	"	1.245					
	20	100	"	1.232					
	40	120	"	1.22	87	76.5			
	5:00	140	"	1.21					
	20	160	"	1.20					
	40	180	"	1.19	90	77			
	6:00	200	"	1.18					
	20	220	"	1.17					
	40	240	"	1.16	92.5	77			
	7:00	260	"	1.147					
	20	280	"	1.132					

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	Solle	
1/23/09	PM 7.40	300	30	1.117	94.7	77	
	8.00	320	"	1.102			
	.20	340	"	1.077			
	.30	350	"	1.06			
	.40	360	"	1.032			
	.45	365	"	1.017			
	.50	370	"	1.005			
	.52	372	"	1.00	97.5	77	-186

Stored Solle over Sunday, 27 hrs.

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	Solle	
			charge	"20			
1/24/09	PM 11.30	0	20		67.5	67.2	
1/25	AM 12.30	60	"		71.7	68.5	
	1.30	120	"		72.5	69.2	
	2.30	180	"		74.7	69.7	
	3.30	240	"		76.5	70.5	
	4.30	300	"		77.7	71.2	
	5.30	360	"		80	72.0	
	6.30	420	"		80.2	73	
	7.30	480	"		80.7	73	
	8.30	540	"		79.5	71.5	
	9.30	600	"		80.2	72.5	
	10.00	630	"	1.797			-10% loss @ 20
				(767)			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	Solle	
			Discharge	20			
1/26/09	AM 10.03	—	open	1.58	81	72.5	
	10.05	0	20	1.497			
	07	2	"	1.415			
	10	5	"	1.38			
	15	10	"	1.357			
	25	20	"	1.335			
	35	30	"	1.307			
	45	40	"	1.297			
	11.05	60	"	1.275	83.7	72.5	
	25	80	"	1.262			
	45	100	"	1.242			
	12.05	120	"	1.232	85.7	72.5	
	25	140	"	1.22			
	45	160	"	1.21			
	1.05	180	"	1.20	86.2	73	
	25	200	"	1.19			
	45	220	"	1.18			
	2.05	240	"	1.17	88	73	
	25	260	"	1.158			
	45	280	"	1.14			
	3.05	300	"	1.127	89.5	72.5	
	25	320	"	1.10			
	45	340	"	1.072			
	5.05	360	"	1.037			
	4.05	360	"	1.027	92.2		
	5.07	370	"	1.00	93	73	-185

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Adle
			Charge 31			
	PM					
1/25/09	4:20	0	20	1.35	93	73
	:32	2	"	1.41		
	:35	5	"	1.425		
	:40	10	"	1.452		
	:50	20	"	1.49		
	5:00	30	"	1.53	92	73
	:10	40	"	1.545		
	:20	60	"	1.61	92.2	73
	:50	80	"	1.63		
	6:00	90	"		89.2	73
	:10	100	"	1.632		
	:30	120	"	1.622	88.7	73
	:50	140	"	1.617		
	7:00	150	"		87.5	73
	:10	160	"	1.617		
	:30	180	"	1.622	86.5	73.5
	:50	200	"	1.622		
	8:00	210	"		86	73.7
	:10	220	"	1.62		
	:30	240	"	1.62	85.5	74
	:50	260	"	1.62		
	9:00	270	"		85	74
	:10	280	"	1.62		
	:30	300	"	1.625	84.7	74.5

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Adle
	PM					
1/25/09	9:50	320	20	1.632		
	10:00	330	"		84.5	75
	:10	340	"	1.637		
	:30	360	"	1.645	84	75.2
	:50	380	"	1.65		
	11:00	390	"		82.5	75.5
	:10	400	"	1.67		
	:30	420	"	1.675	82.2	75.2
	:50	440	"	1.69		
1/26	AM 12:00	450	"		82.7	72
	:10	460	"	1.69		
	:30	480	"	1.705	81	75
	:50	500	"	1.717		
	1:00	510	"		80	73.5
	:10	520	"	1.73		
	:30	540	"	1.742	80.5	73.7
	:50	560	"	1.757		
	2:00	570	"		81.5	74.2
	:10	580	"	1.77.7		
	:30	600	"	1.79	82	74.5
	:50	620	"	1.79.7		
	3:00	630	"	1.80	82.2	74.5
					(85.1)	

= 10½ hrs. @ 20

DATE	TIME	MIN	AMPS	VOLT 32F	TEMP 32F	TEMP Idle	
1/26/09	AM		Discharge			31	
	2:03	0	open	159			
	.05	0	30	149			
	.07	2	"	142			
	.10	5	"	138.2			
	.15	10	"	136			
	.20	20	"	133			
	.25	30	"	131	82.5	72.7	
	.45	40	"	130			
	4.05	60	"	127	82.5	73	
	.25	80	"	124.7			
	.35	90	"		83.5	72.2	
	.45	100	"	124.2			
	5.05	120	"	123	74.5	72.7	
	.25	140	"	122			
	.35	150	"	12	76.2	73	
	.45	160	"	121			
	6.05	180	"	120	86.2	73	
	.25	200	"	119			
	.35	210	"		W	73	
	.45	220	"	118			
	7.05	240	"	117	89.2	73	
	.25	260	"	116			
	.35	270	"		93.7	73.5	
	.45	280	"	115			

DATE	TIME	MIN	AMPS	VOLT 32F	TEMP 32F	TEMP Idle	
1/26/09	AM 8:15	300	36	112	91	72.5	
	25	320	"	111			
	35	330	"		91	73	
	45	340	"	1.09			
	55	350	"	1.065			
	9.05	360	"	1.04	91.5	73	
	.10	365	"	1.022			
	.15	370	"	1.01			
	.19	374	"	1.00			-197

DATE	TIME	MIN	AMPS	VOLTS 32F	VOLTS-N.02	TEMP 32F	TEMP Idle	
				.398	.72	.74	.398	Idle
	AM		Charge	32			29	Electrode
1/26	9.35	0	20	1.37	1.392	-.025	93	73 =5
	.37	2	"	1.417	1.402	.015		2058 p.06 34
	.40	5	"	1.431	1.41	.005		1 " = 3.4
	.45	10	"	1.452	1.42	.015		
	.55	20	"	1.491	1.44	.037		
	10.05	30	"	1.53	1.459	.05	91.5	73
	.15	40	"	1.56	1.476	.062		
	.35	60	"	1.602	1.492	.081	90	73
	.55	80	"	1.63	1.511	.095		
	11.05	90	"				89	73
	.15	100	"	1.63	1.506	.10		
	.25	110	"	1.63	1.511	.103	87.7	73

DATE	TIME	MIN	AMPS	VOLTS 398	VOLTS TO NiO2 72	VOLTS TO NiO2 Pti	T.E.M.P. 398	T.E.M.P. Delle	
1-26-09	AM 11 55	140	20	1.625	1.49	.11		132	
	12 16	161	"	1.625	1.491	.11	847	73.5	
	.35	180	"	1.629	1.487	.136	85.7	73.5	
	.55	200	"	1.63	1.482	.132		11	
	1 05	210	"				85	74	
	15	220	"	1.625	1.483	.125		10.5	
	.35	240	"	1.63	1.472	.13	845	74	
	.55	260	"	1.626	1.472	.132		19	
	2 05	270	"				84	75	
	15	280	"	1.633	1.471	.138		20	
	.35	300	"	1.635	1.47	.14	839	74.7	
	.55	320	"	1.64	1.467	.145		25	
	3 15	340	"	1.643	1.465	.152	833	75	
	.35	360	"	1.648	1.47	.158		1.5	
	.55	380	"	1.652	1.47	.162	835	76	
	4 05	390	"				835	76	
	15	400	"	1.66	1.482	.17		8	
	.35	420	"	1.67	1.483	.175	84	76	
	.55	440	"	1.672	1.486	.18		8.2	
	5 05	450	"				842	76	
	15	460	"	1.68	1.49	.185		2.5	
	.35	480	"	1.693	1.491	.19	832	76	
	.55	500	"	1.705	1.50	.193		3.2	
	6 05	510	"				832	76	
	15	520	"	1.718	1.505	.20			

DATE	TIME	MIN	AMPS	VOLTS 398	VOLTS TO NiO2 72	VOLTS TO NiO2 Pti	TEMP 398	TEMP Delle	
1-26-09	PM 6.35	540	20	1.732	1.512	.205	835	76	
	.55	560	"	1.732	1.53	.205		2.5	
	7.05	570	"				835	76	
	.15	580	"	1.732	1.545	.215		2.0	
	.35	600	"	1.732	1.56	.215	842	76.2	
	.55	620	"	1.729	1.565	.212		8.8	
	8.05	630	"	1.732	1.567	.212	85 (85.0)	76.2	-10t @ 20
				Bandange 32					
1-26-09	PM 8.08	-	off	1.595					
	.10	0	20	1.49					
	.12	2	"	1.405					
	.15	5	"	1.37					
	.20	10	"	1.347					
	.30	20	"	1.322					
	.40	30	"	1.30					
	.50	40	"	1.295					
	9.10	60	"	1.27	9.95	76.5			
	.30	80	"	1.257					
	.50	100	"	1.237					
	10.10	120	"	1.222	89	76.5			
	.30	140	"	1.212					
	.50	160	"	1.205					
	11.10	180	"	1.20	9.05	76.5			
	.30	200	"	117					
	.50	220	"	118.1					

DATE	TIME	MIN	AMP	VOLTS 39K	TEMP 39K	TEMP dale	
1/27/09	AM 12.10	240	30	112.5	77.7	77.2	
	.30	260	"	114			
	.50	280	"	114.2			
	1.10	300	"	112.8	94	77.2	
	.30	320	"	111.1			
	1.40	330	"	109.5			
	.50	340	"	107.7			
	2.00	350	"	106.2			
	.10	360	"	103	96	77	
	.20	370	"	101.10			
	.22	372	"	100			-186
1/27	AM		Charge	33			
	2.30	0	30	139	95.5	76.5	
	.32	2	"	143.7			
	.35	5	"	146.2			
	.40	10	"	158.2			
	.50	20	"	157			
	3.00	30	"	154.7			
	.10	40	"	160.5			
	.30	60	"	162.7	93.7	76	
	.50	80	"	165			
	4.10	100	"	165			

DATE	TIME	MIN	AMPS	VOLTS 39K	TEMPS 35K	dale	
1/27/09	AM 4.30	120	30	165	91.5	75.5	
	.50	140	"	165.7			
	5.10	160	"	165			
	.30	180	"	167	89	74	
	.50	200	"	167.7			
	6.10	220	"	167.2			
	.30	240	"	169	88.7	75	
	.50	260	"	169.5			
	7.10	280	"	170.2			
	.30	300	"	171.5	88	75	
	.50	320	"	172.5			
	8.10	340	"	173.7			
	.30	360	"	176	87.5	74	
	.50	380	"	179			
	9.10	400	"	182			
	.30	420	"	183.2	88	73.7	-7 lms. @ 30
					90.2		
				Discharge	33		
27	AM 9.33	—	when	1.59			
	9.35	0	30	1.50			
	.37	2	"	1.422			
	.40	5	"	1.39			
	.45	10	"	1.37			
	.55	20	"	1.337			
	10.07	32	"	1.317			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Side	
1/27/09	AM 10 15	40	30	1.302			
	35	60	"	1.277	88.7	73.7	
	55	80	"	1.257			
	11 15	100	"	1.247			
	35	120	"	1.232	88.2	74	
	55	140	"	1.22			
	PM 12 15	160	"	1.21			
	35	180	"	1.20	87.7	73	
	55	200	"	1.192			
	1 15	220	"	1.177			
	35	240	"	1.165	89.5	73.2	
	55	260	"	1.152			
	2 15	280	"	1.137			
	35	300	"	1.17	91	73.2	
	55	320	"	1.095			
	3 15	340	"	1.082			
	35	360	"	1.017	93.7	73.7	
	55	380	"	1.00			-182

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	TEMP Side	
	PM.			Change T 3.4			
1-27-09	3.50	0	30	137	96	73.2	
	.52	2	"	1.437			
	.55	5	"	1.462			
	4.00	10	"	150			
	.10	20	"	1.565			
	.20	30	"	1.607			
	.30	40	"	1.64			
	.40	60	"	1.658	94.2	73.5	
	5.10	80	"	1.655			
	.30	100	"	1.655			
	.50	120	"	1.65	91.5	73.7	
	6.10	140	"	1.655			
	.30	160	"	1.66			
	.50	180	"	1.66	90.2	74	
	7.10	200	"	1.67			
	.30	220	"	1.677			
	.50	240	"	1.685	89	74.2	
	8.10	260	"	1.695			
	.30	280	"	1.702			
	.50	300	"	1.72	88.5	74.5	
	9.10	320	"	1.73			
	.30	340	"	1.745			
	.50	360	"	1.775	88.5	74.7	
	10.10	380	"	1.80			

DATE	TIME	MIN.	AMP	VOLTS	TEMP 39F	39F	data
1-27-09	PM 1030	400	20	1225			
	.50	420	"	123	89	74.5	
					90.9		
				Discharge # 74			
1-27-09	PM. 1.03	—	open	1225			
	.55	0	20	150			
	.59	2	"	144			
	11.00	5	"	137.7			
	.05	10	"	127			
	.15	20	"	124.1			
	.25	30	"	122.2			
	.35	40	"	130.8			
	.55	60	"	127.1	90	74.2	
1/28	AM 12.15	80	"	126.1			
	.35	100	"	124.8			
	.55	120	"	123.5	91	75	
	1.15	140	"	122.1			
	.35	160	"	121.7			
	.55	180	"	120.1	91.2	75.5	
	2.15	200	"	119.7			
	.35	220	"	118.3			
	.55	240	"	117	91.5	75	
	3.15	260	"	116			
	.35	280	"	115			
	.55	300	"	112.6	93.5	75.2	

DATE	TIME	MIN	AMPS	VOLTS 37F	TEMPS 39F	39F	data	
1/28/09	AM 4.05	310	30	111.7				
	.15	320	"	111				
	.25	330	"	109.9				
	.35	340	"	108				
	.45	350	"	106				
	.55	360	"	103.1	95.5	76		
	5.05	370	"	100.7				
	.07	372	"	100	95.7	76	-186	
					Fe	Zn	Temps	
1/28				charge		35	215	electrode 5
	AM 5.20	0	30	140	148.5	.02	97.5	76
	.22	2	"	144.7	147.1	.00.2		
	.25	5	"	146.7	143	.01.4		
	.30	10	"	150.7	145	.036		
	.40	20	"	156.1	147.1	.06.1	185	
	.50	30	"	160.5	149.5	.08.1	95.5	76
	6.00	40	"	164	151.7	.039	13	
	.10	50	"				94	76
	.20	60	"	165.8	151.1	.11	195	
	.40	80	"	165	149	.11.9	93	75.5
	7.00	100	"	165	148.5	.13.7	195	
	.10	110	"				92.5	76
	.20	120	"	165	147.7	.13.0		

DATE	TIME	MIN	AMPS	VOLTS 39c	7c	7ic	Temps 39B	Idle
1/28/09	7.50 AM	142	30	1.6[illegible]	1.47	14.1	84.5	75
	800	160	"	1.663	1.477	.155		155
	.20	180	"	1.671	1.477	.165	87.2	73.5
	.40	200	"	1.68	1.477	.17		170
	.50	210	"	1.69	1.499	.181	85.7	73.5
	9.00	220	"	1.69	1.499	.181		
	20	240	"	1.697	1.41	.192	Clarkside was not immersed properly	
	24	244	"	1.698	1.492	.19	85	73.5
	.40	260	"	1.708	1.498	.197		110
	50	270	"				84.5	73.5
	1000	280	"	1.716	1.498	.202		110
	20	300	"	1.725	1.505	.21	84.5	73.5
	40	320	"	1.74	1.512	.215		115
	50	330	"				85	73.5
	11.00	340	"	1.758	1.527	.22		120
	20	360	"	1.782	1.542	.225	85.5	73.5
	40	380	"	1.81	1.57	.232		128
	50	390	"				86.5	73.7
	1200	400	"	1.83	1.585	.235		132
	20	420	"	1.83	1.59	.237	87.2	74
				obs	obs	obs		
							(85.0)	

DATE	TIME	MIN	AMPS	VOLTS 39c	TEMP 39B	Idle
	pm		Discharge #35			
1/28/09	1223	—	40 min	1.59		
	25	0	30	1.50		
	27	2	"	1.422		
	30	5	"	1.385		
	35	10	"	1.37		
	45	20	"	1.34		
	55	30	"	1.32		
	1.05	40	"	1.309		
	25	60	"	1.285	88	74.2
	45	80	"	1.26		
	2.05	100	"	1.245		
	25	120	"	1.232	89.5	74
	45	140	"	1.22		
	3.05	160	"	1.21		
	25	180	"	1.20	89.7	74.5
	45	200	"	1.19		
	4.05	220	"	1.177		
	25	240	"	1.167	91.5	74.2
	45	260	"	1.157		
	5.05	280	"	1.14		
	25	300	"	1.132	94	74.5
	45	320	"	1.0		
	6.05	340	"	1.065		
	25	360	"	1.01	96.5	74.7

DATE	TIME	Min.	AMP	VOLTS #398	TEMP #398	TEMP Slide	
1-28-09	P.M. 6.30	365	20	1.00 off			-182.5
				Charge #36			
1-28-09	P.M. 6.25	0	40	1.78	96	77	
	.30	2	"	1.47			
	.40	5	"	1.512			
	.45	10	"	1.56			
	.55	20	"	1.62	97.2	77	
	7.05	30	"	1.66			
	.15	40	"	1.675	99	77	
	.35	60	"	1.665	99	77	
	.55	80	"	1.67	99.7	77.2	
	8.15	100	"	1.675	98.2	77.2	
	.25	120	"	1.68	97	77.2	
	.55	140	"	1.687			
	9.15	160	"	1.692	96.7	77.5	
	.35	180	"	1.70			
	.55	200	"	1.712	96.5	77.7	
	10.15	220	"	1.725			
	.35	240	"	1.74	96.5	78	
	.55	260	"	1.76	97	78	
	11.15	280	"	1.795	97.5	78	
	.35	300	"	1.827	98.2	78	
	.50	315	"	1.84	98.5	78	-5¼ hrs. @ 40
					97.4		

DATE	TIME	Min.	AMP	VOLTS #398	TEMP #398	TEMP Slide	
				Discharge #36			
1-28-09	P.M. 11.53	-	off	1.925			
	.55	0	20	1.50			
	.57	2	"	1.625			
	12.00	5	"	1.725			
	.05	10	"	1.775			
	.15	20	"	1.845	98	78	
	.25	30	"	1.33			
	.35	40	"	1.807			
	.55	60	"	1.79	98	78	
	1.15	80	"	1.863	97.7	79	
	.35	100	"	1.865	97.5	80	
	.55	120	"	1.875	97.2	80	
	2.15	140	"	122.2	97	80	
	.35	160	"	121	97	80	
	.55	180	"	120.1	96.7	80	
	3.15	200	"	119	96.7	80	
	.35	220	"	118	96.7	80	
	.55	240	"	117	96.5	80	
	4.15	260	"	115.9	96.5	80	
	.35	280	"	114.2	96.7	79.7	
	.55	300	"	112.5	97	79.7	
	5.15	320	"	109.7	97.5	79.5	
	.25	330	"	107.7			
	.35	340	"	106	97.7	79.7	

DATE	TIME	MIN	AMPS	VOLTS	TEMP 398	TEMP 398 Adle	
1/29/09	AM 5.45	360	30	1.03			
	.55	360	"	1.09	98	79.2	
	6.00	375		1.01	98	79.2	-1925
				Charge		37	
1/29	AM 6.15	0	40	1.41	101	79.2	
	.17	2	"	147			
	.20	5	"	151			
	.25	10	"	156			
	.30	20	"	164	99.7	79.2	
	.40	30	"	167			
	.45	40	"	167.5	99.2	78	
	7.15	60	"	167	98.5	78	
	.35	80	"	167	98	78.5	
	.55	100	"	167	97.5	78.7	
	8.15	120	"	1.677	97	78.7	
	.35	140	"	1.69	96.7	78.7	
	.55	160	"	1.697	96.2	79	
	9.15	180	"	1.70	96.2	79	
	.35	200	"	1.71			
	.55	220	"	1.725	96	79	
	10.15	240	"	1.74			
	.35	260	"	1.76	96.2	79	

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Adle	
1/29/09	AM 10.55	280	40	1.795	96.5	78.7	
	11.15	300	"	1.837	97	78.7	
	.30	315	"	1.847	97.5	78.7	
					(97.5)		
				Discharge		37	
1/29	AM 11.33	—	40	1.58			
	.35	0	30	1.50			
	.37	2	"	1.412			
	.40	5	"	1.39			
	.45	10	"	1.37			
	.55	20	"	1.345	96.5	78.5	
	12.05	30	"	1.325			
	.15	40	"	1.31	96	78.5	
	.35	60	"	1.285	96	78.5	
	.55	80	"	1.267	96	78.5	
	1.15	100	"	1.25	95.5	78.5	
	.35	120	"	1.24	94.7	78.5	
	.55	140	"	1.22	94.5	79.2	
	2.15	160	"	1.215	94	78	
	.35	180	"	1.20	93.5	78	
	.55	200	"	1.195	93.5	78	
	3.15	220	"	1.18	93.2	78	
	.35	240	"	1.165	93.5	78	
	.55	260	"	1.155	93.5	77.7	
	4.15	280	"	1.14	94	77.5	

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	TEMP Middle	
	PM						
1-29-09	4.35	300	80	1.317	9.45	77.5	
	.55	320	"	1.095	94.7	77.5	
	5.15	340	"	1.029	95	77.5	
	.20	345	"	1.017			
	.25	350	"	1.00	96	77.3	-1.75 Temp

Charge # 38 — Electrode No 5

	PM							203	
1-29-09	5.45	0	40	1.44	1.43	.01	97.5	77.2	
	.47	2	"	1.497	1.452	.037			40 Sp = 60 Mn
	.50	5	"	1.54	1.47	.06			1 " = 1½ "
	.55	10	"	1.52	1.492	.08		203	
	6.00	20	"	1.64	1.522	.107	97.5	77.2	
	.15	30	"	1.672	1.645	.125			
	.25	40	"	1.68	1.548	.132	97	203 77	
	.45	60	"	1.67	1.525	.142	97	203 77	
	7.00	80	"	1.67	1.51	.154	96.5	203 77.8	
	.20	100	"	1.673	1.503	.170	97	203 77.8	
	.45	120	"	1.68	1.50	.172	96.5	203 77.8	
	8.00	140	"	1.69	1.49.2	.182	95	203 78.5	
	.25	160	"	1.69.4	1.49.9	.179.1	94.7	203 78.5	
	.45	180	"	1.71	1.49.8	.20.1	94.5	203 78.2	
	9.00	200	"	1.72.1	1.50	.221.2	94.2	203 78.5	
	.20	220	"	1.72.1	1.50.7	.22	94.2	203 78.5	
	.45	240	"	1.75.4	1.50	.22.8	94.2	203 78.5	
	10.00	260	"	1.77.4	1.50.5	.225	94.5	203 78.5	

DATE	TIME	MIN.	AMP	VOLTS 398	Zn	Mn	TEMPS 398	TEMPS Mid
1/29/09	PM 12.25	280	40	1.22.2	1.07.4	.23.1	95.5	125 78
	.45	300		1.14.8	1.07.7	.24	92	13 78
	11.00	315		1.13 (1.12 adj)	1.07.7	.24.1	95.7	
							(95.6)	ok

Discharge # 38

1/29	PM 11.03	—	o/pm					
	.05	0	30	1.49	1.37	.112	96.8	78
	.07	2	"	1.42	1.33	.09		
	.11	5	"	1.39	1.31.0	.09.9		
	.15	10	"	1.37	1.30.6	.09.5		
	.25	20	"	1.34.9	1.30	.03.9	95.5	78
	.35	30	"	1.32.3	1.29.7	.02		
	.45	40	"	1.31	1.29.2	.00.8	95.5	78
1/30	AM 12.05	60	"	1.28.2	1.29	-.01.5	95	78.2
	.25	80	"	1.26.0	1.29	-.03	95	78.2
	.45	100	"	1.24.9	1.28.8	-.04.1	94.7	78.7
	1.05	120	"	1.23.4	1.28.2	-.05.9	94.7	78.5
	.25	140	"	1.22.1	1.28.0	-.06.9	94.5	78.5
	.45	160	"	1.21.2	1.27.2	-.07.1	94.5	79
	2.05	180	"	1.20.3	1.27.2	-.08.5	94.2	79
	.25	200	"	1.19.1	1.27	-.09.5	94	79
	.45	220	"	1.18.1	1.27.1	-.10.3	94	79
	3.05	240	"	1.17	1.27.1	-.11.5	94.2	79
	.25	260	"	1.15.8	1.27.1	-.12.6	94.2	79
	.45	280	"	1.13.9	1.27	-.13.4	94.5	79

DATE	TIME	MIN	AMPS	VOLTS			TEMPS 39K	72	76	39K	Sulc
1/30/19	AM 4.05	300	30	111.9	126.6	7.15.8				94.5	78.5
	.15	310	"	112.1	126.2	7.17					
	.25	320	"	108.7	126.1	7.18				95	78.5
	.35	330	"	106.8	126	7.20					
	.45	340	"	104.2	125.7	7.22.1				94	78.2
	.55	350	"	101	125.5	7.26.1					
	5.7/6	352 1/2	"	100	125.5	7.26.1				95.2	78 — 17.62
	Stood 4 5 hrs over Sunday										
				TEMPS							
				39K	Sulc						
2/			Charge	39							
	AM 2.00	0	50	162	71.2		72				
	.02	2	"	171							
	.05	5	"	175							
	.10	10	"	177.8							
	.20	20	"	177.9	76		72.2				
	.30	30	"	176.5							
	.40	40	"	175.7	80		76.5				
	.50	50	"	175.1							
	3.00	60	"	175	82		73				
	.10	70	"	175							
	.20	80	"	175	84.2		73				
	.30	90	"	175.1							
	.40	100	"	175.1	86		73.2				
	.50	110	"	175.7							

DATE	TIME	MIN	AMPS	VOLTS	TEMPS 39K	39K	Sulc	
2/1/19	AM 4.00	120	50	175.9	88		73.5	
	.10	130	"	175.9				
	.20	140	"	176	89.5		73.5	
	.30	150	"	176.1				
	.40	160	"	176.5	91.5		73.5	
	.50	170	"	177				
	5.00	180	"	177.5	92.2		73.5	
	.10	190	"	178.5				
	.20	200	"	179.9	93.5		73.5	
	.30	210	"	181.9				
	.40	220	"	184	95		73.7	
	.50	230	"	186				
	6.00	240	"	187	96.7		73.7	
	.06	246	"	187.5				avl #
	.12	252	"	187	97			— 4 1/5 hrs. @ 50
	Stood 8 hours							
			Discharge		39			
	AM 6.18	—	1/m	157	96.5		74	
	.20	0	.50	148.2				
	.22	2	"	141.8				
	.25	5	"	139				
	.30	10	"	136.2				
	.40	20	"	134.2				
	.50	30	"	132.1				
	7.00	40	"	130.9				

DATE	TIME	MIN	AMPS	VOLTS 39.1	TEMP. 39.8	Jelle	
2/1/09	AM 7.20	20	20	12.4	94	78.5	
	.40	40	"	12.4			
	8.00	100	"	12.16			
	.20	120	"	12.32	91.5	72	
	.40	140	"	1.22			
	9.00	160	"	1.21			
	.20	180	"	1.20	92	74.5	
	.40	200	"	1.19			
	10.00	220	"	1.18			
	20	240	"	1.17	92.2	74.5	
	40	260	"	1.16			
	11.00	280	"	1.145			
	.20	300	"	1.112	93.5	75	
	.40	320	"	1.065			
	45	325	"	1.05			
	.50	330	"	1.031			
	.55	335	"	1.012			
	.57	337½	"	1.00	94.5	75.2	169.7
			Charge	40			
2/1/09	PM 12.20	0	50	1.47	96	75.5	
	.22	2	"	1.55			
	.25	5	"	1.595			
	.30	10	"	1.64			

DATE	TIME	MIN	AMPS	VOLTS 39.8	TEMP 39.8	Jelle	
2/1/09	PM 12.40	20	50	1.68	96	75.5	
	50	30	"	1.71			
	1.00	40	"	1.705	96.2	75.5	
	.10	50	"	1.697			
	.20	60	"	1.697	96.5	75.6	
	30	70	"	1.697			
	.40	80	"	1.705	96.5	75.5	
	.50	90	"	1.71			
	2.00	100	"	1.717	96.5	75.7	
	10	110	"	1.727			
	20	120	"	1.73	96.7	76	
	30	130	"	1.732			
	.40	140	"	1.73	97.2	76.5	
	.50	150	"	1.74			
	3.00	160	"	1.75	97.5	76.5	
	.10	170	"	1.76			
	.20	180	"	1.77	98.5	76.5	
	.30	190	"	1.78			
	.40	200	"	1.795	99.5	77	
	.50	210	"	1.83			
	4.00	220	"	1.85	101	77	
	10	230	"	1.867			
	20	240	"	1.87	102.5	77	
	30	250	"	1.872			99.5 Ohm
	35	255	"	1.872	102	77	45 @ 50

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Side	
	PM			Discharge			
2/1/09	4.38	—	open	1.562		40	
	4.40	0	30	1.49			
	.42	2	"	1.417			
	.45	5	"	1.39			
	.50	10	"	1.375			
	5.00	20	"	1.35	101.2	77.5	
	.10	30	"	1.33			
	.20	40	"	1.31			
	.40	60	"	1.289	99.5	77	
	6.00	80	"	1.262			
	.20	100	"	1.25			
	.40	120	"	1.239	97.5	77	
	7.00	140	"	1.225			
	.20	160	"	1.213			
	.40	180	"	1.20	96	77.7	
	8.00	200	"	1.192			
	.20	220	"	1.18			
	.40	240	"	1.173	95	78.5	
	9.00	260	"	1.157			
	.20	280	"	1.127			
	.40	300	"	1.113	95.5	78.5	
	10.00	320	"	1.095			
	.10	330	"	1.04			
	.20	340	"	1.013			

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	TEMP Side			
	PM.								
2-1-09	10.22	342	30	1.00	96	78			-171
				Calc	46	Ni.	Temp 398	Temp Side	
				Charge					
2-1-09	PM. 10.40	0	60	1.425	140	.02	96	78	Electrode
	.42	2	"	1.555	1.45	.092			50 up = 60 "
	.45	5	"	1.585	1.42	.097			1 " = 1½ "
	.50	10	"	1.655	1.525	.125			1 mg. = ½ cp.
	11.00	20	"	1.70	1.545	.142	97.2	20.5 / 77.7	2 " = 1½ "
	.10	30	"	1.70.2	1.54.5	.15			5 " = 4½ "
	.20	40	"	1.7.9	1.58.1	.159	99	21 / 78	10 " = 8½ "
	.30	50	"	1.69.5	1.57	.16.5			
	.40	60	"	1.69.4	1.51.6	.17.4	98.5	20.5 / 78	
	.50	70	"	1.69.7	1.50.9	.18			
2/2	AM 12.00	80	"	170	150.2	.18.6	98	20 / 78	
	.10	90	"	170.7	150.2	.19.4			
	.20	100	"	171	150	.20	98	20.5 / 77.5	
	.30	110	"	171.7	150.2	.20.2			
	.40	120	"	172.1	150	.21.1	97.5	20.3 / 77.2	
	.50	130	"	172.5	150	.21.6			
	1.00	140	"	172.4	150.1	.22.1	97.5	20.5 / 77	
	.10	150	"	173.9	150.2	.22.3			
	.20	160	"	174.8	150.9	.22.3	97	20.5 / 76.2	
	.30	170	"	175.9	151.4	.22.21			
	.40	180	"	176.8	152	.22.7	97	21 / 76	
	.50	190	"	177	153	.24			

DATE	TIME	MIN	AMP	VOLTS 325	75	76	TEMPS 335	336	
2/2/09	AM 2.00	200	50	180.1	154.9	124.6	97.5	76.7	
	.10	210	"	182.9	157	.25		213	
	.20	220	"	185.2	159.6	.20	99	76	
	.30	230	"	186.4	160.3	.20		215	
	.40	240	"	187	161	.20	100.7	76.2	
	.50	250	"	187.3	161.2	.20			
	.52	252	"	187.5	161.1	.20	98.3		
					T 335				
				Discharge		42			
2/2	AM 2.58	—	40	157	100	76			
	3.00	0	30	149					
	.02	2	"	142					
	.05	5	"	139.2					
	.10	10	"	137					
	.20	20	"	134.2					
	.30	30	"	133					
	.40	40	"	131					
	1.00	60	"	128.2	97.5	76			
	.20	80	"	126.5					
	.40	100	"	124.7					
	5.00	120	"	123	94	75.2			
	.20	140	"	122					
	.40	160	"	121					
	6.00	180	"	120	93	75.5			
	.20	200	"	119					

DATE	TIME	MIN	AMP	VOLTS 325	TEMPS 335	336	
2/2/09	AM 6.40	220	30	117.7			
	7.00	240	"	117	92.2	75.5	
	.20	260	"	115.7			
	.40	280	"	113			
	8.00	300	"	111.5	95	76.5	
	.20	320	"	108			
	.30	330	"	1.057			
	.35	335	"	104			
	.40	340	"	1.017			
	.45	345	"	1.00	96.5	76.5	-1725
				Charge 42			
2/2/09	AM 9.05	0	60	1.50	97	76.5	
	.06	1	"	1.557			
	.07	2	"	1.582			
	.08	3	"	1.597			
	.09	4	"	1.607			
	10	5	"	1.625			
	12	7	"	165			
	15	10	"	1.677			
	20	15	"	1.705			
	25	20	"	1.73	99.7	76	
	35	30	"	1.735			
	45	40	"	1.737	99.5	75.7	

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Dille	
	AM						
2/2/09	9.55	50	60	1.717			
	1005	60	"	1.72	100	75.7	
	.15	70	"	1.72			
	.25	80	"	1.725	1005	75.7	
	.35	90	"	1.732			
	.45	100	"	1.742	1007	76	
	.55	110	"	1.75			
	11.05	120	"	1.76	101	76	
	.15	130	"	1.77			
	.25	140	"	1.775	101	76	
	.35	150	"	1.797			
	.45	160	"	1.817	1015	76	
	.55	170	"	1.84			
	12.05	180	"	1.87	102	75.7	
	.15	190	"	1.882			
	.25	200	"	1.897	1035	75.5	
	.35	210	"	1.902	1042	75.5	$-3\frac{1}{2}$ hrs @ 60
					100.6		
				Discharge	42		
2/2	PM						
	12.38	—	ohm	1.58	1.04	75.5	
	12.40	0	30	1.50			
	.42	2	"	1.475			
	.45	5	"	1.405			
	.50	10	"	1.332			
	1.00	20	"	1.26	1.02	75.5	

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Dille	
	PM						
2/2/09	1.10	30	30	1.34			
	.20	40	"	1.32			
	.40	60	"	1.29	1002	75.5	
	2.00	80	"	1.27			
	.20	100	"	1.255			
	.40	120	"	1.24	99	75.5	
	3.00	140	"	1.222			
	.20	160	"	1.217			
	.40	180	"	1.20	1.93	76	
	4.00	200	"	1.187			
	.20	220	"	1.18			
	.40	240	"	1.173	94	76	
	5.00	260	"	1.157			
	.20	280	"	1.133			
	.40	300	"	1.106	95	76	
	6.00	320	"	1.057			
	.14	334	"	1.00	95	76	-167.2

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	TEMP other	
			Charge # 43				
	PM						
2-2-09	6.30	0	60	1.48	94.5	76	
	.31	1	"	1.525			
	.32	2	"	1.565			
	.33	3	"	1.58			
	.34	4	"	1.592			
	.35	5	"	1.607			
	.37	7	"	1.625			
	.40	10	"	1.652			
	.45	15	"	1.70			
	.50	20	"	1.725	99	76.5	
	7.00	30	"	1.72			
	.10	40	"	1.72	99.5	76	
	.20	50	"	1.72			
	.30	60	"	1.72	99.2	75.7	
	.40	70	"	1.722			
	8.50	80	"	1.73	99.5	75.5	
	9.00	90	"	1.74			
	.10	100	"	1.747	100	75.2	
	.20	110	"	1.747			
	.30	120	"	1.752	101	75	
	.40	130	"	1.755			
	.50	140	"	1.762	102	75	
	9.00	150	"	1.795			
	.10	160	"	1.805	102.7	75	

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	TEMP other	
2-2-09	9.20	170	60	1.835			
	.30	180	"	1.87	103.7	75	
	.40	190	"	1.892			
	.50	200	"	1.895	104	75	
	10.00	210	"	1.897	104.5	75	−3½ lbs. @ 60
					(100.7)		
			Discharge # 43				
	PM						
2-2-09	10.03	–	off	1.58			
	.05	0	30	1.602			
	.07	2	"	1.64			
	.10	5	"	1.702			
	.15	10	"	1.795			
	.25	20	"	1.857	104	75	
	.35	30	"	1.885			
	.45	40	"	1.922	102.5	75	
	11.05	60	"	1.29	102	75.2	
	.25	80	"	1.27			
	.45	100	"	1.25			
	12.05	120	"	1.237	99.5	77	
	.25	140	"	1.225			
	.45	160	"	1.215			
	1.05	180	"	1.20	98	78.7	
	.25	200	"	1.19			
	.45	220	"	1.181			
	2.05	240	"	1.17	96.7	78	
	.25	260	"	1.165			

DATE	TIME	MIN	AMP	VOLTS 32F	TEMPS 32F.	76F			
2/3/09	AM 2.45	2.18	30	113.5					
	3.05	300	"	111	97	78			
	.25	320	"	106.2					
	.35	330	"	103					
	.43½	338½	"	100	98	78			-169.2
					76	76	TEMPS		
2/3	AM 4.00	Charge	60	150	144	.05	91.5	235 78	
	.01	1	"	156.5	145	.09.9			
	.02	2	"	157	146	.09.1			
	.03	3	"	159	147	.10.2			
	.04	4	"	160.1	147.3	.177			
	.05	5	"	161.9	148.2	.172			
	.07	7	"	164.6	149.4	.173.2			
	.10	10	"	167.7	150.2	.174.2			
	.15	15	"	170.9	150.7	.175.8			
	.20	20	"	172.2	154	.176.2	100.2	225.2 78	
	.30	30	"	172	153	.177			
	.40	40	"	171.1	151.5	.178	101.5	225.5 79	
	.50	50	"	171.4	150.9	.178.9			
	5.00	60	"	171.9	150.2	.178.9	102	228 79.2	
	.10	70	"	172.1	149	.179.1			
	.20	80	"	172.9	149	.2	102	228 79.5	

DATE	TIME	MIN	AMP	VOLTS 32F	76F	76F		TEMPS 32F	76F	
2/3/09	5.00	90	60	173.4	148.5	121.5		103.5	79.2	
	.40	100	"	174	149.6	122.1		102.7		
	.50	110	"	174.2	150.1	122.7				
	6.00	120	"	175.5	151	.122		103.2	231 79.5	
	.10	130	"	175.5	150.9	.123.1				
	.20	140	"	176.5	151.7	.123.5		104	232 79.5	
	.30	150	"	176.1	153	.123.9				
	.40	160	"	176	154.7	.124		104.5	233 79.5	
	.50	170	"	177	155.5	.124				
	7.00	180	"	178	159.4	.124		105.4	236 79.5	
	.10	190	"	178.5	161	.241			237	
	.20	200	"	178.6	161	.124.1		106.5	79.5	
	.30	210	"	178.3	161	.124		106.5	238 79.5	-3½ @ 60
				AM				106.0	AM	
		Discharge						44		
2/3	AM 7.33	—	40	157						
	.35	0	30	149						
	.37	2	"	142						
	.42	5	"	139						
	.45	10	"	137						
	.55	20	"	135.5						
	8.05	30	"	132.5	132.5	73.5				
	.15	40	"	131						
	.25	50	"	128.5	128	79.2				
	.35	60	"	128						

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP dble	
	AM						
2/3/09	9.15	100	20	1.247			
	.35	120	"	1.23	96	785	
	55	140	"	1.217			
	10.15	160	"	1.205			
	.35	180	"	1.195	92	77	
	.55	200	"	1.187			
	11.15	220	"	1.175			
	35	240	"	1.165	912	767	
	55	260	"	1.15			
	PM						
	12.15	280	"	1.13			
	35	300	"	1.097	925	765	
	55	320	"	1.042			
	1.05	330	"	1.007			
	.06	331½	"	1.00	932	762	-165.7
				Pm +			
			Change	≠ 45			
2/3	PM 1.40	0	.90	1.67	942	76	
	41	1	"	1.692			
	42	2	"	1.72			
	43	3	"	1.74			
	45	5	"	1.777			
	47	7	"	1.80			
	50	10	"	1.867	976	76	
	55	15	"	1.905			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP dble	
	PM						
2/3/09	2.00	20	90	1.795	1.00	76	
	.05	25	"	1.79			
	.10	30	"	1.79	102	76	
	.20	40	"	1.79	1032	76	
	.30	50	"	1.795	105	76	
	.40	60	"	1.795	1065	76	
	.50	70	"	1.805	108	76	
	3.00	80	"	1.807	1102	765	
	.10	90	"	1.817	1.12	765	
	.15	95	"	1.83			
	.20	100	"	1.84	1.12	765	
	.25	105	"	1.857			
	.30	110	"	1.88	1.13	765	
	.35	115	"	1.91			
	.40	120	"	1.92	1.145	765	
	.45	125	"	1.93			
	.50	130	"	1.937	1.157	765	
	.55	135	"	1.937			
	4.00	140	"	1.937	1.17	765	-2⅓ hrs. @ 90
					(1073)		
			Discharge	≠ 45			
2-09	PM 4.03	—	0	1.57			
	.05	0	20	1.692	1.17	765	
	07	2	"	1.725			
	.10	5	"	1.805			

DATE	TIME	MIN.	AMP	VOLTS 398	VOLTS 398	TEMP. 398	TEMP. Cable	
2-3-09	PM. 4.15	10	30	1.325	1.147			
	.25	20	"	1.335				
	.35	30	"	1.332				
	.45	40	"	1.315	1.10			
	5.00	60	"	1.285	1.075	76.2		
	.25	80	"	1.265				
	.45	100	"	1.245				
	6.05	120	"	1.235	1.022	76.2		
	.25	140	"	1.217				
	.45	160	"	1.205				
	7.05	180	"	1.197	.98	76		
	.25	200	"	1.183				
	.45	220	"	1.172				
	8.05	240	"	1.155	.96	76.2		
	.25	260	"	1.135				
	.45	280	"	1.10				
	9.05	300	"	1.042	.965	76.2		
	.15	310	"	1.002				
	.15	3.11	"	1.00				-155.5

DATE	TIME	MIN.	AMP	VOLTS 398	To NiO2 Ni.	TEMP. 398	TEMP. Cable	
				Change #46				
	PM					22.5		
2-3-09	9.30	0	90	1.54	1.45	.11	99 76.2	
	.31	1	"	1.63	1.47	.155	Electrode #5	
	.32	2	"	1.67	1.497	.18		90 Sp. = 60 ma
	.33	3	"	1.71	1.509	.192		1 " = 3 "
	.35	5	"	1.737	1.525	.197		1½ = 1½ sp.
	.37	7	"	1.76	1.54	.205		2 " = 3 "
	.40	10	"	1.78	1.54	.215	250 10.12 76.2	5 " = 7½ "
	.45	15	"	1.787	1.54	.222		10 " = 15 "
	.50	20	"	1.793	1.545	.225	265 10.2 76.2	
	.55	25	"	1.78	1.537	.222		
	10.00	30	"	1.777	1.545	.223	287 10.47 76	
	.10	40	"	1.785	1.552	.227	302 10.47 76	
	.20	50	"	1.785	1.552	.229	318 10.45 76.2	
	.30	60	"	1.79	1.552	.230	328 10.45 76.2	
	.40	70	"	1.797	1.552	.230	328 10.9 76.2	
	.50	80	"	1.805	1.555	.232	328 110 76.2	Temp diff 34.8
	11.00	90	"	1.814	1.565	.232	111 76.2	
	.05	95	"	1.814	1.56	.235	345	
	.10	100	"	1.816	1.56	.235	347 76.2	
	.15	105	"	1.822	1.565	.237	348	
	.20	110	"	1.820	1.562	.237	114 76	
	.25	115	"	1.822	1.563	.237	40.3	
	.30	120	"	1.822	1.560	.237	114 75.9	
	.35	125	"	1.824	1.565	.237	237	
	.40	130	"	1.825	1.565	.237	119 75.9	
	.45	135	"	1.824	1.565	.237		
	.50	140	"	1.824	1.565	.237	49.3 119 76.2	-24 @ 90
				9	9	9	109.3	

DATE	Time	Min	Amp	Volts 37°	Temp 37°	Temp 66°	
			Discharge			46	
2-3-09	PM 11.50	—	40 amp	155.5			
	.55	0	30	147.5	118	75	
	.57	2	"	142.5			
	12.00	5	"	140.2			
	.05	10	"	138.5	117	75.2	
	.15	20	"	135.6			
	.25	30	"	133.9			
	.35	40	"	132	112.7	75.5	
	.55	60	"	129	109.9	75.2	
	1.15	80	"	127			
	.35	100	"	125			
	.55	120	"	123.7	107	74.5	
	2.15	140	"	122.2			
	.35	160	"	121			
	.55	180	"	120	99.2	74.7	
	3.15	200	"	119			
	.35	220	"	117.7			
	.55	240	"	116.7	97	75	
	4.15	260	"	113.9			
	.35	280	"	111.2			
	.55	300	"	105	96	75	
	5.05	310	"	101			
	.08	313	"	100	96	75	15.15

DATE	TIME	MIN	AMP	VOLTS 37°	TEMPS 37°	TEMPS 66°	
2/4/09	AM			Charge		47	
	5.25	0	30	137	97	75.2	
	.27	2	"	141			
	.30	5	"	144.2			
	.35	10	"	149			
	.45	20	"	155			
	.55	30	"	160			
	6.05	40	"	163			
	.25	60	"	165	94	75.5	
	.45	80	"	165			
	7.05	100	"	165			
	.25	120	"	165	90	75	
	.45	140	"	165			
	8.05	160	"	166			
	.25	180	"	166.2	89	75.5	
	.45	200	"	167			
	9.05	220	"	166			
	.25	240	"	169	87.7	75	
	.45	260	"	170			
	10.05	280	"	172.5			
	.25	300	"	173	87.5	74.5	
	.45	320	"	174.2			
	11.05	340	"	177			
	.25	360	"	182.7	88.5	74.5	
	.45	380		184			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Delle	
	PM						
2/4/09	12.05	400	30	1.84			
	25	420	"	1.84	90.6 (90.4)	74.2	
				Discharge # 47			
2/4	PM 1228	—	open	1.59			
	1230	0	.30	1.492			
	32	2	"	1.417			
	35	5	"	1.377			
	40	10	"	1.362			
	50	20	"	1.332			
	1.00	30	"	1.22			
	.13	43	"	1.306			
	.30	60	"	1.285	90.5	74.5	
	.50	80	"	1.265			
	2.10	100	"	1.245			
	.30	120	"	1.227	90	74	
	.50	140	"	1.225			
	3.10	160	"	1.215			
	.30	180	"	1.207	90	74	
	.50	200	"	1.198			
	4.10	220	"	1.187			
	.30	240	"	1.18	90	74	
	.50	260	"	1.165			
	5.10	280	"	1.155			
	.30	300	"	1.137	91.7	74.5	

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	TEMP Delle	
	PM						
2/4/09	5.50	320	30	1.105			
	6.10	340	"	1.063			
	.20	360	"	1.04			
	.30	376	"	1.00	95	75	-178
				Charge # 48			
2-4-09	PM 7.55	0	30	1.40	89	76.2	
	.57	2	"	1.46			
	8.00	5	"	1.497			
	.05	10	"	1.54			
	.15	20	"	1.60			
	.25	30	"	1.637			
	.35	40	"	1.659			
	.55	60	"	1.667	88.7	75	
	9.15	80	"	1.662			
	.35	100	"	1.662			
	.55	120	"	1.665	86.5	74.2	
	10.15	140	"	1.667			
	.35	160	"	1.672			
	.55	180	"	1.672	85.2	74	
	11.15	200	"	1.671			
	.35	220	"	1.67			
	.55	240	"	1.676	84.5	73.2	
	12.15	260	"	1.705			
	.35	280	"	1.72			

DATE	TIME	MIN	AMP	VOLTS 39F	TEMPS 39F	Bolle	
2/2/09	AM 12.55	300	30	173	87.5	73.2	
	1.15	320	"	174.2			
	.20	340	"	177			
	.35	360	"	180.2	85.5	72.2	
	2.15	400	"	183			
	.35	420	"	184.5			
	.55	440	"	185	87.5	73	
					(86.4)		
2/5				Discharge		74	
	PM 2.50	—	open	159			
	3.00	0	30	151			
	.02	2	"	142.6			
	.05	5	"	139			
	.10	10	"	137			
	.20	20	"	134			
	.30	30	"	132.2			
	.40	40	"	131			
	4.00	60	"	128.2	89	74.5	
	.20	80	"	127			
	.40	100	"	126			
	5.00	120	"	124	89	74	
	.20	140	"	123			
	.40	160	"	122			
	6.00	180	"	121	88.5	74	
	.20	200	"	120			

DATE	TIME	MIN	AMP	VOLTS 39F	TEMPS 39F	Bolle	
2/5/09	AM 6.40	220	30	119			
	7.00	240	"	118	88.5	73	
	.20	260	"	117			
	.40	280	"	116			
	8.00	300	"	114	91	74	
	.20	320	"	1.12			
	.40	340	"	1.107			
	.50	350	"	1.06			
	9.00	360	"	1.03			
	.07	367	"	1.00	92.7	73.5	-183.5
				39.9	7e #	94	TEMP 39F Bolle
				Charge	49		
2/5	AM 9.20	0	30	1.40	1.385	-.012	91	73.5	Electrode #5
	.32	2	"	1.45	1.405	.012			
	.35	5	"	1.47	1.432	.035			
	.40	10	"	1.517	1.45	.057			
	.50	20	"	1.57	1.479	.081			
	10.00	30	"	1.609	1.49	.101			
	.10	40	"	1.64	1.51	.107			
	.30	60	"	1.655	1.517	.127	89.7	74	
	.50	80	"	1.65	1.505	.132			
	11.10	100	"	1.65	1.498	.14			
	.30	120	"	1.652	1.491	.15	89.7	75.5	
	.50	140	"	1.657	1.49	.157			

DATE	TIME	MIN	AMPS	VOLTS 398	VOLTS TO 7a	NiO_2 9a	TEMP 398	TEMP Sdle
	PM							
2/5/09	12.10	160	30	1.657	1.49	.162		
	.20	170	"	1.662	1.485	.177	89	757
	.50	200	"	1.67	1.485	.178		
	1.10	220	"	1.678	1.482	.193		
	.30	240	"	1.682	1.482	.195	89.5	757
	.50	260	"	1.698	1.487	.20		
	2.10	280	"	1.707	1.49	.21		
	.30	300	"	1.721	1.497	.219	89	75.5
	50	320	"	1.732	1.50	.223		
	3.10	340	"	1.75	1.51	.23		
	30	360	"	1.777	1.53	.237	88.5	75
	50	380	"	1.81	1.54	.24		
	4.10	400	"	1.83	1.592	.237	89.5	
	.30	430	"	1.84	1.592	.238	91	75
				Breakage			49	
	PM							
2-5-09	4.32	–	off	1.58	1.405	.165		
	.35	0	20	1.505	1.387	.165		
	37	2	"	1.432	1.345	.08		
	.40	5	"	1.28	1.225	.057		
	.45	10	"	1.265	1.20	.065		
	.55	20	"	1.24	1.196	.042		
	5.05	30	"	1.222	1.195	.027		
	.15	40	"	1.209	1.192	.013		
	.35	60	"	1.197	1.179	.012	92	757
	.55	80	"	1.197	1.179	.03		

DATE	TIME	MIN.	AMP	VOLTS 398	VOLTS TO 7a	NiO_2 Ni.	TEMP 398	TEMP Sdle
	PM.							
2-5-09	6.15	100	20	1.25	1.292	-.045		
	.35	120	"	1.24	1.291	-.057	92.7	76.2
	.55	140	"	1.227	1.289	-.062		
	7.15	160	"	1.217	1.283	-.066		
	.35	180	"	1.207	1.277	-.093	92.5	76.7
	.55	200	"	1.20	1.292	-.095		
	8.15	220	"	1.192	1.284	-.10		
	.35	240	"	1.18	1.285	-.113	93	77
	.55	260	"	1.173	1.285	-.112		
	9.15	280	"	1.16	1.284	-.125		
	.35	300	"	1.14	1.283	-.15	94.5	77.5
	.55	320	"	1.119	1.283	-.173		
	10.15	340	"	1.083	1.285	-.202		
	.35	360	"	1.03	1.28	-.257	95	77
	.47	367	"	1.00	1.28	-.287	95	76.9 -183.5
				Change Too				
	PM							
2-5-09	1.242	0	20	1.34	95	76.5		
	.47	2	"	1.41				
	.50	5	"	1.437				
	.55	10	"	1.49				
	11.05	20	"	1.56				
	.15	30	"	1.59				
	.35	40	"	1.62				

DATE	TIME	MIN	AMPS	VOLTS 384	TEMPS 398	384	
2/5/09	PM 11.45 AM	60	30	165	94.5	74.5	
2/6	12.05	50	"	166			
	.25	100	"	165			
	.45	120	"	165	90.2	74.7	
	1.05	140	"	165.5			
	.25	160	"	166			
	.45	180	"	166	89	75.1	
	2.05	200	"	167			
	.25	220	"	167			
	.45	240	"	168	89	75.5	
	3.05	260	"	169			
	.25	280	"	170			
	.45	300	"	171.5	87.7	75	
	4.05	320	"	173			
	.25	340	"	174.5			
	.45	360	"	177	87	74.5	
	5.05	380	"	181			
	.25	400	"	183			
	.45	420	"	184	89	75	
					(902)		
				Discharge		*50	
2/6	AM 5.41	—		Pm	159		
	.52	0			150		
	.52	2			142		
	.55	5			136.5		

DATE	TIME	MIN	AMPS	VOLTS 384	TEMPS 398	384	
2/10/09	AM 6.00	10	30	136.5			
	.10	20	"	134			
	.20	30	"	132			
	.30	40	"	131			
	.50	60	"	128	89	74.5	
	7.10	80	"	126.2			
	.30	100	"	125			
	.50	120	"	122.5	87	73.2	
	8.10	140	"	122.5			
	.30	160	"	122.5			
	.50	180	"	120.5	86	73	
	9.10	200	"	119.7			
	.30	220	"	119.5			
	.50	240	"	119.7	88	72.2	
	10.10	260	"	119.7			
	.30	280	"	119.2			
	.50	300	"	119.3	89.2	73.5	
	11.10	320	"	119.5			
	.30	340	"	109			
	.40	350	"	105			
	.50	360	"	102	90.2	72.7	
	5.49	349	"	100			-182.2

Stood 35 hours rec. Sunday RB

DATE	TIME	MIN	AMP	VOLTS 398	TEMP 398	TEMP Solid
2/7/79	pm	Charge 5/				
	11.15	0	30	151	70.2	70
	.17	2	"	156		
	.20	5	"	165.5		
	.25	10	"	165		
	.35	20	"	166.5		
	.45	30	"	170.6		
	.55	40	"	170.9	74.2	70.7
	12.05	50	"	169.4		
	.35	80	"	166.1	77	71
	.55	100	"	166.1		
	1.15	120	"	166	78.5	71
	.35	140	"	166.3		
	.55	160	"	169	80	71.2
	2.15	180	"	169		
	.35	200	"	169.8	81.5	72
	.55	220	"	169.9		
	3.15	240	"	170.2	83	72.2
	.35	260	"	171.2		
	.55	280	"	172.1	84	72.7
	4.15	300	"	173		
	.35	320	"	174.2	85	73
	.55	340	"	176		
	5.15	360	"	177	86	73
	.35	380	"	180.6		

DATE	TIME	MIN	AMP	VOLTS 398	TEMP 398	TEMP Solid
2/8/79	5.55	400	30	182.7	87	73.2
	6.15	420	"	184		
	.35	440	"	184.2	89	73.5
	.55	460	"	184.7		
	7.15	480	"	185	90.2	73.5
	.35	500	"	185		
	.55	520	"	185	91.5	74
	8.15	540	"	185		
	.35	560	"	1.85	91.7	74
	.55	580	"	1.85		
	9.15	600	"	1.85	92.2	74
	.35	620	"	1.85		
	.55	640	"	1.85	92.6	74
	10.15	660	"	1.85		
	.35	680	"	1.85	93.2	74
	.55	700	"	1.85		
	11.15	720	"	1.85	93.7	74
	.35	740	"	1.85		
	.55	760	"	1.85	94.5	74.2
	12.15	780	"	1.85		
	.35	800	"	1.85	94.7	74.5
	.55	820	"	1.85		
	1.15	840	"	1.842	95.0	75
	.35	860	"	1.842		
	.55	880	"	1.84	95.5	75

DATE	TIME	MIN	AMPS	VOLTS 398	TEMPS 398	TEMPS Adk.
	PM					
2-8-09	2.15	9.00	20	1.24	96.5	76.5
					97.1	
			Discharge #5			
	PM					
2-8-09	2.18	-	0	1.595		
	.20	10	20	1.56		
	.22	2	"	1.425		
	.25	5	"	1.40		
	.30	10	"	1.38		
	.40	20	"	1.355		
	.50	30	"	1.337		
	3.00	40	"	1.325	92.5	75.5
	.20	60	"	1.30		
	.40	80	"	1.28		
	4.00	100	"	1.26	93.2	76
	.20	120	"	1.25		
	.40	140	"	1.237		
	5.00	160	"	1.227	92.2	76
	.20	180	"	1.217		
	.40	200	"	1.21	91.2	76
	6.00	220	"	1.205		
	.20	240	"	1.195	92.5	76.5
	.40	260	"	1.187		
	7.00	280	"	1.18	92.5	76
	.20	300	"	1.175		
	.40	320	"	1.163	94.5	76.5

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	TEMP Adk.	
2-8-09	8.00	340	30	1.163			
	.20	360	"	1.138	96	76.5	
	.40	380	"	1.115			
	9.00	400	"	1.095	98	76.5	
	.20	420	"	1.052			
	.30	430	"	1.025	–		
	.40	440	"	1.00	99.5	76.5	-220
			Charge #5.2				
	PM						
2-8-09	9.45	0	20	1.37	99.7	76.5	
	.47	2	"	1.42			
	.50	5	"	1.459			
	.55	10	"	1.50			
	10.00	20	"	1.552			
	.15	30	"	1.58			
	.25	40	"	1.612	100	77	
	.45	60	"	1.642			
	11.05	80	"	1.642	98	78	
	.25	100	"	1.642			
	.45	120	"	1.642	96.5	78.2	
2/7.	12.05	140	"	1.65			
	.25	160	"	1.65	94	78	
	.45	180	"	1.659			
	1.05	200	"	1.662	92.7	78	
	.25	220	"	1.67			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMPS 398	Bolle
2/9/09	PM 1.45	240	30	167.5	91.7	78
	2.05	260	"	167.6		
	.25	280	"	169.2	90.5	77.5
	.45	300	"	170.5		
	3.05	320	"	171.5	89.2	77
	.25	340	"	172.2		
	.45	360	"	173.5	89.5	77.2
	4.05	380	"	174.1		
	.25	400	"	175	89.5	77.7
	.45	420	"	177.7		
	5.05	440	"	180	90	77.5
	.25	460	"	182.2		
	.45	480	"	184	90.7	77
	6.05	500	"	185		
	.25	520	"	185	92	77
	.45	540	"	185.5		
	7.05	560	"	185	93.2	77.5
	.25	580	"	185		
	.45	600	"	185	94	77.7
	8.05	620	"	184.7		
	.25	640	"	184.2	94.7	77.5
	.45	660	"	185		
	9.05	680	"	1.842	95.5	77.5
	.25	700	"	1.845		
	.45	720	"	1.84	95.7	77.5

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	Bolle
2/9/09	AM 10.05	740	30	1.84		
	.25	760	"	1.84	96	77.5
	.45	780	"	1.842		
	11.05	800	"	1.844	97	77.5
	.25	820	"	1.845		
	.45	840	"	1.842	97.7	77.5
	12.05	860	"	1.84		
	.25	880	"	1.84		
	.45	900	"	1.84	98.2	77.5
					(943)	
				Discharge #52		
2/9	PM 12.48	—	open	1.59		
	1.50	0	30	1.54		
	.52	2	"	1.422		
	.55	5	"	1.397		
	1.60	10	"	1.375		
	.10	20	"	1.382		
	.20	30	"	1.335		
	.30	40	"	1.32	96	78
	.50	60	"	1.293		
	2.10	80	"	1.275	95.5	78
	.30	100	"	1.257		
	.50	120	"	1.245	94.2	78.2
	3.10	140	"	1.232		
	.30	160	"	1.222	93.5	78.2

DATE	TIME	MIN.	AMP	VOLTS ←398	TEMP ←398	TEMP slider	
2/9/09	PM 3.50	180	30	1.217			
	4.10	200	"	1.205	93	78.2	
	.30	220	"	1.20			
	.50	240	"	1.192	93	78.2	
	5.10	260	"	1.185			
	.30	280	"	1.177	92	78.2	
	.50	300	"	1.172			
	6.10	320	"	1.155	92.2	78.2	
	.30	340	"	1.14			
	.50	360	"	1.125	94.5	78	
	7.10	380	"	1.102			
	.30	400	"	1.08	94.7	78	
	.40	410	"	1.05			
	.50	420	"	1.03			
	8.00	430	"	1.00	96	78	-715
				Charge 53.			-420 put in
2-9-09	PM 8.20	0	20	1.36	96	78	
	.22	2	"	1.44	94		
	.25	5	"	1.46			
	.30	10	"	1.505			
	.40	20	"	1.555			
	.50	30	"	1.597			
	9.00	40	"	1.627	94	78	
	.30	60	"	1.65			

DATE	TIME	MIN.	AMP	VOLTS ←398	TEMP ←398	TEMP slider	
2-9-09	PM 9.40	80	20	1.652	94	78	
	10.00	100	"	1.645			
	.20	120	"	1.65	93.5	78	
	.40	140	"	1.652			
	11.00	160	"	1.655	92.5	78	
	.20	180	"	1.66			
	.40	200	"	1.665	91.5	79	
2/	AM 12.00	220	"	1.67			
	.20	240	"	1.67	91	79.2	
	.40	260	"	1.67			
	1.00	280	"	1.67	90.5	79.2	
	.20	300	"	1.70			
	.40	320	"	1.71	90.5	79	
	2.00	340	"	1.72			
	.20	360	"	1.73	90.2	79	
	.40	380	"	1.742			
	3.00	400	"	1.76	90.7	79	
	.20	420	"	1.762			
	.40	440	"	1.81	91.5	78.5	
	4.00	460	"	1.82.2			
	.20	480	"	1.84	92.5	78.2	
	.40	500	"	1.85			
	5.00	520	"	1.854	93.5	78	
	.20	540	"	1.85			
	.40	560	"	1.855	94	78	

DATE	TIME	MIN	AMPS	VOLTS 398	TEMPS 398	TEMPS Cells	
2/10/09	AM 6.00	580	30	185			
	.20	600	"	185	95	78	
	.40	620	"	185			
	7.00	640	"	185	95.5	78	
	.20	660	"	185			
	.40	680	"	185	94.5	77	
	8.00	700	"	185			
	.20	720	"	185	94	77	
	.41	741	"	1.85			
	9.00	760	"	185	94.5	76.5	
	.20	780	"	185			
	.40	800	"	1.85	94	76.5	
	10.00	820	"	1.85			
	20	840	"	1.85	93.2	76	
	40	860	"	1.85			
	11.00	880	"	1.85	92	75	
	20	900	"	1.857	91.7	74.5	-15 hrs.
					92.4		
				Discharge # 53			
2/10	AM 11.23	—	ohm	1.600			
	11.25	0	30	1.502			
	.27	2	"	1.43			
	.30	5	"	1.395			
	.35	10	"	1.377			
	.45	20	"	1.35			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Cells	
2/11/09	AM 11.55	20	30	1.337			
	12.05	40	"	1.317			
	.25	60	"	1.297	91.5	73	
	.45	80	"	1.277	91.2	73	
	1.05	100	"	1.257			
	.25	120	"	1.243	92.6	73	
	.45	140	"	1.232			
	2.05	160	"	1.222	92.5	73	
	.25	180	"	1.217			
	.45	201	"	1.207	92.5	73.2	
	3.05	220	"	1.20			
	.25	240	"	1.195	92.5	73.5	
	.45	260	"	1.186			
	4.05	280	"	1.178	91.2	73.7	
	.25	300	"	1.167			
	.45	320	"	1.159	92.2	74	
	5.05	340	"	1.143			
	.25	360	"	1.125	93.2	74	
	.45	380	"	1.107			
	6.05	400	"	1.08	94	74	
	.25	410	"	1.062			
	.35	420	"	1.035			
	.35	430	"	1.009			
	.35	433	"	1.00	94.7	74	-21.65

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	TEMP Walk	
				Charge 54			
	PM.						
2-10-09	6.45	0	20	1.36	95	74	
	.47	2	"	1.42			
	.50	5	"	1.459			
	.55	10	"	1.495			
	7.05	20	"	1.552			
	.15	30	"	1.59			
	.25	40	"	1.615			
	.40	60	"	1.645	92	72.5	
	8.05	80	"	1.652			
	.25	100	"	1.652			
	.45	120	"	1.655	90.5	72.5	
	9.05	140	"	1.657			
	.25	160	"	1.66			
	.45	180	"	1.66	89.2	72.5	
	10.05	200	"	1.665			
	.25	220	"	1.673			
	.45	240	"	1.68	87	73	
	11.05	260	"	1.685			
	.25	280	"	1.697			
	.45	300	"	1.71			
2/11	AM 12.05	320	"	1.72			
	.25	340	"	1.73			
	.45	360	"	1.74	86	73	
	1.05	380	"	1.75			

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	TEMP Walk	
2/11/09	AM 1.25	400	20	1.77			
	.45	420	"	1.79			
	2.05	440	"	1.82			
	.25	460	"	1.84			
	.45	480	"	1.85	90.5	74	
	3.05	500	"	1.85			
	.25	520	"	1.85			
	.45	540	"	1.85			
	4.05	560	"	1.85			
	.25	580	"	1.854			
	.45	600	"	1.859	92.2	72.5	
	5.05	620	"	1.854			
	.25	640	"	1.85.5			
	.45	660	"	1.85	94	74	
	6.05	680	"	1.85			
	.25	700	"	1.85			
	.45	720	"	1.85.5	93.2 (90.5)	72.5	- 12 hrs.
4/11				Discharge 54			
	AM 6.45	—	open	1.59.7			
	.50	0	30	1.52			
	.52	2	"	1.43			
	.55	5	"	1.39.7			
	7.00	10	"	1.37.4			
	.20	20	"	1.34.5			

DATE	TIME	MIN	AMPS	VOLTS	TEMP 39K	TEMP 44K	
2/11/09	AM 7.20	30	30	1372			
	.30	40	"	1372			
	.50	60	"	1371.7	91.2	72	
	8.10	80	"	1222			
	.30	100	"	1216			
	.50	120	"	1243	89.7	72.7	
	9.10	140	"	1222			
	.30	160	"	1222			
	.50	180	"	1219	89.2	73	
	10.10	200	"	1209			
	.30	220	"	1120			
	.50	240	"	1193	89.5	73	
	11.10	260	"	1195			
	.30	280	"	1175			
	.50	300	"	1165	88.3	73	
	PM 1.10	320	"	1153			
	.30	340	"	114			
	.50	360	"	1117	91	72.5	
	2.10	380	"	1.10			
	.30	400	"	1.072			
	.50	420	"	1.03	92.7	72.5	
	3.00	430	"	1.00			-215
	10	440	"	.957			-220

DATE	TIME	MIN.	AMP	VOLTS 39K	TEMP 39K	TEMP 44K	
			Charge		55		
2/11/09	PM 2.30	0	30	1.38	96.3	73.2	
	.32	2	"	1.437			
	.35	5	"	1.465			
	.40	10	"	1.50			
	.50	20	"	1.555			
	300	30	"	1.595			
	.10	40	"	1.62			
	.20	50	"	1.652			
	.30	60	"	1.655	97.5	73.5	
	4.10	100	"	1.652			
	.30	120	"	1.655	89.5	73	
	.50	140	"	1.657			
	5.10	160	"	1.66			
	.30	180	"	1.662	88	73.2	
	.50	200	"	1.667			
	6.10	220	"	1.672			
	30	240	"	1.677	87.5	73.2	
	.50	260	"	1.682			
	7.10	280	"	1.69			
	30	300	"	1.70	88	73	
	.50	320	"	1.72			
	8.10	340	"	1.73			
	30	360	"	1.735	89	73.5	
	.50	380	"	1.74			

DATE	TIME	MIN	AMPS	VOLTS 39.8	TEMP 39.8	Side	
2/11/09	PM 9.10	400	30	1.752			
	.30	420	"	1.775	99.5	74.2	
	.50	440	"	1.807			
	10.10	460	"	1.83			
	.30	480	"	185	90	75	
	.50	500		185.5			
	11.10	520	"	185.2			
	.30	540	"	185.7	90.5	75	
	.50	560	"	185.7			
2/12	AM 12.10	580	"	185			
	.30	600	"	185	93.2	75	
	.50	620	"	185			
	1.10	640	"	185			
	.30	660	"	185	94.2	75.2	
	.50	680	"	184.7			
	2.10	700	"	184.1			
	.30	720	"	184	95	77	-12 hours
					9.49		
2/12	AM			Discharge	55		
	2.33	—	40	159			
	.35	0	30	151			
	.37	2	"	142.1			
	.40	5	"	139			
	.45	10	"	137			
	.50	20	"	135.6			

DATE	TIME	MIN	AMPS	VOLTS 39.8	TEMP 39.8	Side
2/12/09	AM 3.05	30	30	133.5		
	.10	40	"	132		
	.35	60	"	129.5	95	74
	.55	80	"	127.7		
	4.15	100	"	126.1		
	.35	120	"	125	97.7	75
	.55	140	"	123.7		
	5.15	160	"	123		
	.35	180	"	122.1	97	75
	.55	200	"	121.5		
	6.15	220	"	120.7		
	.35	240	"	120	95	76.7
	.55	260	"	119		
	7.15	280	"	118.1		
	.35	300	"	117.2	95.2	76.7
	.55	320	"	116.1		
	8.15	340	"	115		
	.35	360	"	112.2	95	76
	.55	380	"	111		
	9.15	400	"	1.08		
	.35	410	"	1.055		
	.35	420	"	1.032	99	76
	.45	430	"	1.00	99.5	76	-21.5

DATE	TIME	MIN.	AMPS	VOLTS	TEMP. 398	TEMP. Solu	
			Charge # 56				
2/12/09	AM 10 30	0	30	1.465	97	77	
	32	2	"	1.457			
	35	5	"	1.48			
	40	10	"	1.517			
	50	20	"	1.565			
	11 00	30	"	1.59			
	10	40	"	1.63			
	30	60	"	1.657	94.7	76.5	
	50	80	"	1.65			
	12.11	101	"	1.65			
	30	130	"	1.647	92.2	76.2	
	50	140	"	1.647			
	1.10	160	"	1.652			
	30	180	"	1.66	91.2	76.5	
	50	200	"	1.665			
	2.10	220	"	1.67			
	30	240	"	1.677	89.2	76	
	50	260	"	1.68			
	3.10	280	"	1.685			
	30	300	"	1.70	89.5	76	
	50	320	"	1.71			
	4.10	340	"	1.722			
	30	360	"	1.733	87.7	75	
	50	380	"	1.757			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Solu	
2/12/09	PM 5.10	400	30	1.77			
	30	420	"	1.797	88.5	74.5	
	50	440	"	1.82			
	6.10	460	"	1.84			
	30	480	"	1.845	91.5	74.2	
	50	500	"	1.847			
	7.10	520	"	1.845			
	30	540	"	1.847	90.5	74.7	
	50	560	"	1.845			
	8.10	580	"	1.842			
	30	600	"	1.842	92.5	75.7	
	50	620	"	1.84			
	9.10	640	"	1.84			
	30	660	"	1.84	98	76.2	
	50	680	"	1.84			
	10.10	700	"	1.84			
	30	720	"	1.84	99.2	75	= 12 hrs. @ 30
					(92.7)		
2/12			Discharge				
	AM 10.33			1.677			
	35	0	30	1.505			
	37	2	"	1.42			
	40	5	"	1.29			
	45	10	"	1.21			
	50	20	"	1.361			

DATE	TIME	MIN.	AMP	VOLTS 39#	TEMP 39#	TEMP elder
2/12/17	PM 11.05	30	30	135	-	-
	.15	40	"	133.7		
	.35	60	"	131	97.2	76.5
	.55	80	"	129		
2/13	AM 12.15	100	"	127		
	.35	120	"	125.2	95	76.5
	.55	140	"	124		
	1.15	160	"	123		
	.35	180	"	122.2	94	76.2
	.55	200	"	121.7		
	2.15	220	"	121		
	.35	240	"	120	93	75
	.55	260	"	119		
	3.15	280	"	118.2		
	.35	300	"	117.7	92.5	74.5
	.55	320	"	116.2		
	4.15	340	"	115		
	.35	360	"	113.8	93.7	74
	.55	380	"	111.6		
	5.15	400	"	109		
	.35	420	"	107.7		
	.55	440	"	105	93	72.2
	.55	430	"	107.6		
	5.45	397	"	100	92	72

DATE	TIME	MIN	AMP	VOLTS 39#	TEMP 39#	TEMP Jule
Stood 47 hours over Sunday.						
2/15/17	AM		Charge		57	
	5.00	0	30	150	75	75.7
	.02	2	"	157		
	.05	5	"	160		
	.10	10	"	163		
	.20	20	"	167		
	.30	30	"	169.1		
	.40	40	"	170.1		
	6.00	60	"	169	79.2	75.7
	.20	80	"	168.6		
	.40	100	"	168.1		
	7.00	120	"	168	82	72
	.20	140	"	168.1		
	.40	160	"	168.5		
	8.00	180	"	169	83.2	75.7
	.20	200	"	169		
	.40	220	"	169.7		
	9.00	240	"	170	83.2	75
	.20	260	"	171		
	.40	280	"	172.7		
	10.00	300	"	172.2	83.7	74.5
	.20	320	"	173		
	.40	340	"	173.7		

DATE	TIME	MIN	AMPS	Volts 398	TEMP 398	TEMP Bottle	
2/15/09	A.M. 11.00	360	30	1.75	84.2	74.5	
	.20	380	"	1.76			
	.40	400	"	1.772			
	P.M. 12.00	420	"	1.795	87	74.5	
	.20	440	"	1.815			
	.40	460	"	1.837			
	1.00	480	"	1.85	90	75	
	.20	500	"	1.852			
	.40	520	"	1.86			
	2.00	540	"	1.86	91	75	
	.20	560	"	1.85			
	.40	580	"	1.855			
	3.00	600	"	1.855	92.5	75	-10 hrs.
					(84.6)		
			Discharge		87		
2-15-09	P.M. 3.02	—	open	1.595			
	.05	0	30	1.52			
	.07	2	"	1.42			
	.10	5	"	1.397			
	.15	10	"	1.377			
	.25	20	"	1.357			
	.35	30	"	1.337			
	.45	40	"	1.322			
	4.05	60	"	1.295	92.7	75	
	.35	90	"	1.275			

DATE	Time	Min.	Amp	Volts 398	TEMP 398	TEMP Bottle	
2/15/09	P.M. 4.45	100	30	1.265			
	5.05	120	"	1.25	92	75.5	
	.25	140	"	1.237			
	.45	160	"	1.225			
	6.05	180	"	1.22	92	75	
	.25	200	"	1.213			
	.45	220	"	1.209			
	7.05	240	"	1.20	93	76	
	.25	260	"	1.195			
	.45	280	"	1.187			
	8.05	300	"	1.177	93	76	
	.25	320	"	1.163			
	.45	340	"	1.147			
	9.05	360	"	1.133	95.5	76.2	
	.25	380	"	1.112			
	.45	400	"	1.067			
	10.05	420	"	1.02	97.7	76.2	
	.15	426	"	100	98		-212.5

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	TEMP Wbb	
				Charge		58	
2-15-09	PM 10.15	0	30	126	92	762	
	.17	2	"	142			
	.20	5	"	146			
	.25	10	"	149.5			
	.35	20	"	154.2			
	.45	30	"	158			
	.55	40	"	161.2			
	11.15	60	"	164.6	92	765	
	.35	80	"	165			
	.55	100	"	165			
2/16	AM 12.15	120	"	165	94	76	
	.35	140	"	165.7			
	.55	160	"	165.8			
	1.15	180	"	166	91.7	75.5	
	.35	200	"	166.2			
	.55	220	"	167			
	2.15	240	"	167.5	91.5	76.2	
	.35	260	"	168			
	.55	280	"	169			
	3.15	300	"	169.8	91	77	
	.35	320	"	170.9			
	.55	340	"	171.8			
	4.15	360	"	172.4	90.5	77.2	
	.35	380	"	173.3			

DATE	TIME	MIN	AMP	VOLTS 398	TEMP 398	TEMP Wbb	
2/14/09	AM 4.55	400	30	174.8			
	5.15	420	"	176.5	92	77	
	1.35	440	"	179			
	.55	460	"	181.8			
	6.15	480	"	184.1	91.5	76.4	
	.35	500	"	184.9			
	.55	520	"	185.1			
	7.15	540	"	185	92.5	75	
	.35	560	"	185			
	.55	580	"	185			
	8.15	600	"	185	94	75.5	-10 lbs.
					(931)		
				Discharge		58	
2/15	AM 8.18	—	open	159			
	.20	0	30	151			
	.22	2	"	144			
	.25	5	"	139.9			
	.30	10	"	137.8			
	.40	20	"	135.7			
	.52	32	"	133.7			
	9.00	40	"	132.2			
	.20	60	"	129.5	93	75.5	
	.40	80	"	127.7			
	10.00	100	"	126			
	.20	120	"	125	94.7	75	

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP chiller	
2/16/09	AM 10:40	140	30	1.235			
	11:07	162	"	1.225			
	.20	180	"	1.22	91	75	
	.40	200	"	1.21			
	PM 12:00	220	"	1.205			
	.20	240	"	1.20	91	75	
	.40	260	"	1.192			
	1.00	280	"	1.18			
	.20	300	"	1.167	93	75	
	.40	320	"	1.157			
	2.00	340	"	1.14			
	.20	360	"	42	93.7	75	
	.40	380	"	1.095			
	3.00	400	"	1.085			
	.10	410	"	1.02			
	.17	417	"	1.00	95.5	75.2	-20.85
				Charge # 59			
2-16-09	PM 3:50	0	20	1.42	94	75	
	.52	2	"	1.46			
	.58	5	"	1.48			
	4:00	10	"	1.515			
	.10	20	"	1.585			
	.20	30	"	1.62			

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	TEMP chiller	
2-16-09	PM 4:30	40	20	1.63			
	.50	60	"	1.657	93.2	75.2	
	5:10	80	"	1.64			
	.20	100	"	1.657			
	.30	120	"	1.65	91.2	75	
	6:10	140	"	1.657			
	.30	160	"	1.657			
	.50	180	"	1.662	90	75	
	7:10	200	"	1.665			
	.30	220	"	1.675			
	.50	240	"	1.68	88.7	75.5	
	8:10	260	"	1.685			
	.30	280	"	170			
	.50	300	"	1.705	88.7	76	
	9:10	320	"	1.715			
	.30	340	"	1.725			
	.50	360	"	1.727	90	76.5	
	10:10	380	"	1.75			
	.30	400	"	1.775			
	.50	420	"	1.802	91.5	77.5	
	11:10	440	"	1.829			
	.30	460	"	1.846			
	.50	480	"	1.865	91.5	75.5	
2/17	AM 12:10	5:00	"	1.865			
	.30	520	"	1.865			

DATE	TIME	MIN	AMP	VOLTS 398	TEMP. 39.5	Jelly	
2/17/09	AM 12.50	500	30.	185	92.2	74.5	
	1.10	540	"	185.2			
	.30	510	"	185			
	.50	600	"	185	93.2	74.2	
					(94.3)		
				Discharge			59
2/17	AM 1.50	—	30	159			
	.55	0	30	151			
	2.00	2	"	143			
	2.00	5	"	139.2			
	.05	10	"	137.7			
	.15	20	"	135.1			
	.25	30	"	133.7			
	.35	40	"	131.9			
	.55	60	"	129.4	91.2	73.5	
	3.15	80	"	127.4			
	.35	100	"	125.9			
	.55	120	"	124.1	90	73.2	
	4.15	140	"	123.5			
	.35	160	"	122.2			
	.55	180	"	121.5	91	74	
	5.15	200	"	121			
	.35	220	"	120.2			
	.55	240	"	120	93	74.5	
	6.15	260	"	119			

DATE	TIME	MIN	AMP	VOLTS 39.5	TEMP. 39.5	Jelly	
2/17/09	AM 6.35	280	30	118.3			
	.55	300	"	117.1	94	74.7	
	7.15	320	"	116			
	.35	340	"	114.7			
	.55	360	"	112.7	93	74	
	8.15	380	"	110			
	.35	400	"	106.9			
	.45	410	"	104			
	.56	421	"	1.003			
	.58	423	"	1.00	91.5	72.5	-211.5
				Charge	60		Shine & Bu
2/17/09	AM 9.15	0	30	1.40	92.2	72.5	
	.17	2	"	1.45			
	.20	5	"	1.492			
	.25	10	"	1.51			
	.35	20	"	1.56			
	.45	30	"	1.597			
	.55	40	"	1.62			
	10.15	60	"	1.65	93.2	73.5	
	10.38	73	"	1.657			
	10.55	100	"	1.655			
	11.17	122	"	1.657	89.7	73	
	.35	140	"	1.66			

Date	Time	MIN	Amp 378	Volts 378	Temp 378	Temp Cell	
2/17/8	AM 11:55	160	30	1.66			
	PM 12:15	180	"	1.665			
	.35	200	"	1.67			
	.55	220	"	1.677	88	74.5	
	1.15	240	"	1.68	89.5	74.5	
	.35	260	"	1.69			
	.55	280	"	1.697			
	2.15	300	"	1.707	89.2	74.5	
	.35	320	"	1.717			
	.55	340	"	1.73			
	3.15	360	"	1.745	92.5	74.5	
	.35	380	"	1.757			
	.55	400	"	1.78			
	4.15	420	"	1.79.1	89	75.5	
	.35	440	"	1.83			
	.55	460	"	1.847			
	5.15	480	"	1.85	89.5		-8 hrs.
					Temp		
				Discharge		# 60	
2/17/7	PM 5.18	-		open	1.59		
	.20	10	30		1.70		
	.35	5	"		1.437		
	.55	5	"		1.39		
	30	10	"		1.37		
	40	10	"		1.347		

Date	Time	Min.	Amp	Volts 378	Temp 378	Temp Cell	
	.50	30	30	1.325			
	6.00	40	"	1.20			
	.20	60	"	1.225	90	75	
	.40	80	"	1.267			
	7.00	100	"	1.203			
	.20	120	"	1.24	91.5	75	
	.40	140	"	1.23			
	8.00	160	"	1.22			
	.20	180	"	1.213	91.7	75	
	.40	200	"	1.205			
	9.00	220	"	1.20			
	.20	240	"	1.195	93	74.7	
	.40	260	"	1.185			
	10.00	280	"	1.177			
	.20	300	"	1.163	93.7	74.5	
	.40	320	"	1.147			
	11.00	340	"	1.13			
	.20	360	"	1.109	95.2	74.5	
	.40	380	"	1.05.3			
	.50	390	"	1.04.4			
2/1	AM 12.00	400	"	1.01.7			
	.03	403	"	1.00	96.2	74	-201.5

DATE	TIME	MIN	AMP	VOLTS 39.5	TEMP. 39.5	TEMP. Delta	
2/12/4				Discharge		61	
	AM 12.20	0	30	138	92	74	
	.22	2	"	144.2			
	.25	5	"	149.1			
	.30	10	"	147.8			
	.40	20	"	151			
	.50	30	"	159			
	1.00	40	"	162			
	.20	60	"	165	94	74	
	.40	80	"	165.1			
	2.00	100	"	165			
	.20	120	"	165	92	74	
	.40	140	"	165.4			
	3.00	160	"	165.4			
	.20	180	"	166.2	89	73.5	
	.40	200	"	166.8			
	4.00	220	"	167.2			
	.20	240	"	168	88	73.2	
	.40	260	"	169			
	5.00	280	"	169.9			
	.20	300	"	170.9	87.5	73.2	
	.40	320	"	171.5			
	6.00	340	"	172.3			
	.20	360	"	174	87.7	73.2	
	.40	380	"	175.5			

DATE	TIME	MIN	AMP.	VOLTS 39.5	TEMP. 39.5	TEMP. Delta	
2/13/74	AM 7.00	400	30	178.3			
	.20	420	"	181.1	88	73	
	.40	440	"	184			
	8.00	460	"	185			
	.20	480	"	185.4	89.5	72.5	-8 hrs.
					(89.7)		
				Discharge # 61			
2/13	AM 8.20	-	Open	159.2			
	.25	0	30	151			
	.27	2	"	142.6			
	.30	5	"	139			
	.35	10	"	137			
	.45	20	"	134.6			
	.55	30	"	133			
	9.07½	42½	"	131			
	.25	60	"	128.7	89.5	72.7	
	.45	80	"	127			
	10.05	100	"	125.5			
	.25	120	"	124	89.7	73	
	.45	140	"	123			
	11.05	160	"	122			
	.25	180	"	121.5	90.2	73.2	
	.45	200	"	120.5			
	12.05	220	"	120			
	PM .25	240	"	119.2	91.5	73.3	

DATE	TIME	MIN	AMP	VOLTS 398	TEMPS 398	TEMPS Idle	
2/18/09	PM 1.45	260	30	1.165			
	1.05	280	"	1.175			
	25	300	"	1.16	95	74	
	.45	320	"	1.147			
	2.05	340	"	1.135			
	25	360	"	110	95	75	
	45	380	"	106			
	50	385	"	104			
	55	390	"	102			
	3.00	395	"	1.05			
	3.03	398	"	100	95	75.5	-1.99
				Charge #62			
2-18-09	PM 3.15	0	30	1.345	94.7	75.2	
	.17	2	"	1.425			
	20	5	"	1.465			
	.25	10	"	1.495			
	.35	20	"	1.547			
	.45	30	"	1.587			
	.55	40	"	1.615			
	4.15	60	"	1.645	94	75.2	
	35	80	"	1.647			
	55	100	"	1.647			
	5.15	121	"	1.647	91.5	75.2	

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	TEMP Idle	
2-18-09	PM 5.35	140	30	1.65			
	55	160	"	1.655			
	6.15	180	"	1.66	89	75	
	.35	200	"	1.665			
	.55	220	"	1.67			
	7.15	240	"	1.68	89	75.2	
	.35	260	"	1.685			
	.55	280	"	1.695			
	8.15	300	"	1.705	89.5	75.5	
	.35	320	"	1.715			
	.55	340	"	1.725			
	9.15	360	"	1.74	89	75.5	
	.35	380	"	1.76			
	.55	400	"	1.79			
	10.15	420	"	1.82	90	75.9	
	.35	440	"	1.84			
	.55	460	"	1.847			
	11.15	480	"	1.85	92	76	- 8 hrs.
					90.0		
2/11	PM			Discharge		62	
	11.18	—	4pm	1.59			
	.20	0	30	1.51			
	.22	2	"	1.42			
	.25	5	"	1.39			
	.30	11	"	1.32			

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	414	
2/16/19	PM 11.40	20	30	134.9			
	.50	30	"	133.1			
2/19	AM 12.00	40	"	131.6			
	.20	60	"	129	92	75	
	.40	80	"	127			
	1.00	100	"	125.4			
	.20	120	"	124.1	91.5	76	
	.40	140	"	123			
	2.00	160	"	122.1			
	.20	180	"	121.2	91	76	
	.40	200	"	121			
	3.00	220	"	120.2			
	.20	240	"	119.5	91	75	
	.40	260	"	118.5			
	4.00	280	"	117.2			
	.20	300	"	116	91	74.5	
	.40	320	"	114			
	5.00	340	"	112			
	.20	360	"	109.9	91	74	
	.40	380	"	106.2			
	.50	390	"	103.2			
	6.00	400	"	100	93	74	-200

DATE	TIME	MIN	AMPS	VOLTS 398	TEMPS 398	414	
2/19/19				Charge			62
	AM 6.20		70	137	92.5	73.7	
	.22	2	"	144			
	.25	5	"	147			
	.30	10	"	150.3			
	.40	20	"	155.7			
	.50	30	"	159.1			
	7.00	40	"	162.5			
	.20	60	"	165	92	74	
	.40	80	"	165.4			
	8.00	100	"	166			
	.20	120	"	166.7	89	72.2	
	.40	140	"	166			
	9.00	160	"	166.7			
	.20	180	"	166.7	87	76.2	
	.40	200	"	167.2			
	10.00	220	"	167.7			
	10.20	240	"	168.5	85.7	73.2	
	10.40	261	"	169.5			
	11.00	280	"	170.5			
	.20	300	"	171.7	85	72.7	
	.40	320	"	172.7			
	12.00	340	"	174			
	.20	360	"	175.7	84.2	72	
	.40	380	"	178			

DATE	TIME	MIN	AMP	VOLTS 398	TEMP. 1 398	TEMP. 1 elder	
2-19-09	PM. 1.00	400	30	1.512			
	.20	420	"	1.54	85.5	72	7 hrs.
					86.5		
				Discharge #63			
2-19-09	PM. 1.22	—	0 Amp	1.587			
	.25	0	30	1.584			
	.37	2	"	1.425			
	.30	5	"	1.355			
	.35	10	"	1.36			
	.45	20	"	1.337			
	.55	30	"	1.32			
	2.05	40	"	1.305			
	.25	60	"	1.28	87	72	
	.45	80	"	1.26			
	3.05	100	"	1.245			
	.25	120	"	1.237	87	72.5	
	.45	140	"	1.225			
	4.05	160	"	1.22			
	.25	180	"	1.212	88	73	
	.45	200	"	1.205			
	5.05	220	"	1.197			
	.25	240	"	1.187	89.2	73	
	.45	260	"	1.177			
	6.05	280	"	1.16			
	.25	300	"	1.145	90.5	73.7	

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP. 398	TEMP. elder	
2-19-09	PM. 6.45	320	30	1.13			
	7.05	340	"	1.10			
	.15	350	"	1.08			
	.25	360	"	1.057	92	73.5	
	.30	365	"	1.04			
	.35	370	"	1.023			
	.40	375	"	1.005			
	.45	375½	"	1.00	92.5	73.5	-1.837
				Charge #64			
2-19-09	PM. 8.00	0	30	1.38	92.5	73.2	
	.02	2	"	1.44			
	.05	5	"	1.465			
	.10	10	"	1.565			
	.20	20	"	1.565			
	.30	30	"	1.597			
	.40	40	"	1.62			
	9.00	60	"	1.655	90.7	73	
	.20	80	"	1.655			
	.40	100	"	1.655			
	10.00	120	"	1.66	89.2	73.7	
	.20	140	"	1.66			
	.40	160	"	1.662			
	11.00	180	"	1.665	89	73.5	

DATE	TIME	MIN	AMP	VOLT 378	TEMP 378	TEMP clock	
2-19-09	PM 11.20	200	30	167			
	.40	220	"	169.9			
2/20	AM 12.00	240	"	161.6	86	72.2	
	.20	260	"	169.9			
	.40	280	"	170.6			
	1.00	300	"	171.8	86.5	72.25	
	.20	320	"	172.7			
	.40	340	"	174.3			
	2.00	360	"	176	86.5	72.2	
	.20	380	"	179			
	.40	400	"	182			
	3.00	420	"	183.2	88	73	= 7 hrs
					(90.3)		
2/20	AM			Discharge			- 64
	3.00	—	30	159			
	.05	0	30	150			
	.07	2		141.8			
	.10	5	"	137.9			
	.15	10	"	136.1			
	.25	20	"	133.8			
	.35	30	"	132			
	.45	40	"	130.5			
	4.05	60	"	128	89.2	73	
	.25	80	"	126			
	.45	100	"	125			

DATE	TIME	MIN	AMP	VOLT 378	TEMP 378	TEMP clock	
/20	AM 5.05	120	30	123.5	89.7	72.5	
	.25	140	"	123			
	.45	160	"	122.2			
	6.05	180	"	121.5	90.5	72.7	
	.25	200	"	120.5			
	.45	220	"	119.9			
	7.05	240	"	119	90	72.7	
	.25	260	"	117.8			
	.45	280	"	116.2			
	8.05	300	"	114.7	89	72.5	
	.25	320	"	113.5			
	.45	340	"	111.0			
	9.05	360	"	105.5	89.2	72	
	.10	365	"	104.2			
	.15	370	"	102.7			
	.20	375	"	100.7			
	.22	377	"	100	90.5	71.7	= 18.5
				Charge #65			
2/20	AM 9.35	0	30	138	90.5	71.7	
	.37	2	"	1.434			
	.40	5	"	1.462			
	.45	10	"	1.54			
	.55	20	"	1.557			

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	TEMP elec.	
2-20-09	AM 10.05	20	30	1.60			
	.15	40	"	1.625			
	.35	60	"	1.65.5	89.5	72.2	
	.55	80	"	1.657			
	11.15	100	"	1.657			
	35	120	"	1.657	88	73	
	.55	140	"	1.657			
	PM 12.15	160	"	1.66			
	.35	180	"	1.662	86.5	70.2	
	.55	200	"	167			
	1.15	220	"	1.675			
	35	240	"	169	85.5	72	
	55	260	"	169.2			
	2.15	280	"	170			
	35	300	"	171.2	86.5	72	
	55	320	"	1.727			
	3.15	340	"	1.745			
	35	360	"	1.762	87.2	72.5	
	55	380	"	1.80			
	4.15	400	"	1.825			
	35	420	"	1.84	88.5	73.5	off line
					(398)		
	Stopped charge 32 hours						

DATE	TIME	MIN	AMP	VOLTS 398	TEMP 398	TEMP elec.	
	AM	Discharge #65.					
2/23/09	12.30	—	open	147.5			
	.35	0	30	135	76	75.2	
	.37	2	"	131			
	.40	5	"	129			
	.45	10	"	128			
	.55	20	"	127.2			
	1.05	30	"	127.1			
	.15	40	"	124.2			
	.35	60	"	123	81.5	76	
	.55	80	"	122.2			
	2.15	100	"	121.7			
	.35	120	"	121.2	85.7	76.5	
	.55	140	"	120.2			
	3.15	160	"	120			
	.35	180	"	119	89	76.5	
	.55	200	"	118.2			
	4.15	220	"	117.5			
	.35	240	"	116.5	91	76.5	
	.55	260	"	116.2			
	5.15	280	"	113.7			
	.35	300	"	111.9	92.5	76	
	.45	320	"	110.7			
	.55	330	"	109.3			
	6.05	338	"	107.7			

DATE	TIME	MIN	AMP	VOLTS 398	TEMPS 398	106E	
2/22/19	A.M. 8.15	340	30	105			
	12.5	350	"	102.3			
	30½	355½	"	100	74.5	75.5	-179.2
2/22	A.M.		Change	= 66.			
	6.40	0	30	135	74.5	75.5	
	.42	2	"	141.6			
	.45	5	"	145			
	.50	10	"	147.1			
	7.00	20	"	154.2			
	.10	30	"	158.2			
	.20	40	"	161.5			
	.40	60	"	164.5	74.6	75.5	
	8.00	80	"	164.7			
	20	100	"	164.7			
	40	120	"	164.7	94	75.5	
	9.00	140	"	165			
	20	160	"	165.2			
	40	180	"	165.7	90.5	76	
	10.00	200	"	166.2			
	20	220	"	167			
	40	240	"	167.7	88.7	75	
	11.00	260	"	168.7			

DATE	TIME	MIN	AMP	VOLTS 398	TEMP 398	106	
2/22	A.M. 11.00	280	30	170			
	40	300	"	171.2	87.5	75	
	P.M. 12.00	320	"	172			
	20	340	"	173.7			
	40	360	"	173.7	87.7 (90.9)	74.7	-6 hrs.
2/22	P.M.		Discharge	# 66			
	12.43	—	Amp	152			
	12.45	0	30	150			
	.47	2	"	141.2			
	.50	5	"	137.7			
	.55	10	"	135.2			
	1.05	20	"	132.7			
	.15	30	"	131			
	25	40	"	129.5			
	45	60	"	127.2	87.2	74	
	2.05	80	"	125.2			
	25	100	"	123.7			
	45	120	"	122.5	84.7	72	
	3.05	140	"	121.5			
	25	160	"	120.7			
	45	180	"	119.7	85	72	
	4.05	200	"	119			
	25	220	"	118.5			
	45	240	"	118	86.2	71	

DATE	TIME	MIN.	AMP	VOLTS	TEMP. Top	TEMP. Bottom	
7/22	PM. 5 05	260	30	1145			
	15	270	"	1137			
	25	280	"	1127			
	35	290	"	1105			
	45	300	"	1097	90	72.2	
	55	310	"	1097			
	6.05	320	"	1065			
	.15	330	"	1037			
	.20	335	"	1.02			
	.25	340	"	1.00	92.5	73	<190
				Change	67		
2-22-09	PM 6.40	0	30	1.36	99.7	73	
	.42	2	"	1.42			
	.45	5	"	1.45			
	.50	10	"	1.50			
	7.00	20	"	1.56			
	.10	30	"	1.62			
	.20	40	"	1.66			
	.40	60	"	1.65	90.7	73.2	
	8.00	80	"	1.655			
	.20	100	"	1.652			
	.40	120	"	1.65	90	73.5	
	9.00	140	"	1.647			

DATE	TIME	MIN.	AMP	VOLTS	TEMP. Top	TEMP. Bottom	
2-22-09	9.20	160	30	1.66			
	.40	180	"	1.663	90	73.5	
	10.00	200	"	1.665			
	.20	220	"	1.675			
	.40	240	"	1.685	89.5	75	
	11.00	260	"	1.70			
	.20	280	"	1.715			
	.40	300	"	1.72	88.7	75.5	
2-22-09	PM 12.00	320	"	1.74			
	.20	340	"	1.75			
	.40	360	"	1.762	89.5	75.5	after discharge.
7/22	AM			Discharge	90.7	67	
	12.45	—		from 157.4			
	.45	0	30	149.5			
	.47	2	"	141.5			
	.50	5	"	137.7			
	.55	10	"	135.1			
	1.05	20	"	133			
	.15	30	"	131			
	.25	40	"	129.9			
	.45	60	"	127.5	89.7	75.5	
	2.05	80	"	125.9			
	.25	100	"	124.1			
	.45	120	"	123	89	74.7	

DATE	TIME	MIN	AMP	VOLTS	TEMP 398	TEMP 398	IDLE
2/23/79	2.05	140	30	122.1			
	.25	160	"	121.4			
	.45	180	"	120.2	89	74.5	
	4.05	200	"	119.7			
	.25	220	"	118.5			
	.45	240	"	117.2	89.5	74.5	
	5.05	260	"	115.8			
	.25	280	"	112.2			
	.45	300	"	111.7	91.7	75	
	6.05	320	"	108			
	.15	330	"	106.5			
	.25	340	"	102.5			
	.32	347	"	100	92.2	75	-173.5
2/22	AM			Charge			L.P.
	6.40	0	30	136	93	75	
	.42	2	"	142.1			
	.45	5	"	146.1			
	.50	10	"	149.5			
	7.00	20	"	155.8			
	.10	30	"	159.5			
	.20	40	"	162.1			
	.40	60	"	165	91	74	

DATE	TIME	MIN	AMP	VOLTS	TEMP 398	TEMP 398
2/23/79	AM 8.00	80	30	165.4		
	20	100	"	165.7		
	40	120	"	166.	86	73.5
	9.00	140	"	166.4		
	20	160	"	166.5		
	40	180	"	167	86.2	74
	10.00	200	"	167.5		
	20	220	"	168		
	40	240	"	169	86.5	75
	11.00	260	"	170.2		
	20	280	"	171.7		
	40	300	"	173	87	75.-
	P.M. 12.00	320	"	174.7		
	20	340	"	177.7		
	40	360	"	180	87.5	75
					89.2	
	P.M.			Discharge		# 48
2/23/79	12.45	—	0	Open	157.5	
	45	0	30	149		
	47	2	"	141.2		
	50	5	"	137.5		
	55	10	"	135.5		
	1.05	20	"	134.7		
	15	30	"	131.2		
	25	40	"	129.9		

DATE	TIME	MIN.	AMP	VOLTS ← 398	TEMP. 398	TEMP. 2006
1/23	P.M. 1.45	60	30	1.25	87	74.7
	.05	80	"	1.255		
	.25	100	"	1.26		
	.45	120	"	1.27	87.2	73.5
	3.05	140	"	1.27		
	.25	160	"	1.21		
	.45	180	"	1.202	87	74
	4.05	200	"	1.19		
	.25	220	"	1.18		
	.45	240	"	1.167	89	74.5
	5.05	260	"	1.152		
	.25	280	"	1.13		
	.45	300	"	1.105	90.7	74.5
	.55	310	"	1.085		
	6.05	320	"	1.06		
	.10	325	"	1.043		
	.15	330	"	1.032		
	.20	335	"	1.013		
	.25	339	2 "	1.00	91.5	74.2

DATE	TIME	MIN.	AMP	VOLTS ← 398	TEMP. 398	TEMP. 2006	
				Charge	← 69		
1-23-09	P.M. 6.40	0	30	1.36	91.5	74.2	
	.42	2	"	1.42			
	.45	5	"	1.449			
	.50	10	"	1.50			
	7.00	20	"	1.56			
	.10	30	"	1.60			
	.20	40	"	1.63			
	.40	60	"	1.65	92	75	
	8.00	80	"	1.655			
	.20	100	"	1.65			
	.40	120	"	1.655	90.2	75.5	
	9.00	140	"	1.655			
	.20	160	"	1.66			
	.40	180	"	1.665	89.2	75	
	10.00	200	"	1.67			
	.20	220	"	1.682			
	.40	240	"	1.692	87	74.7	
	11.00	260	"	170.2			
	.20	280	"	1767			
	.40	300	"	172.6	87.5	75.5	off-shower
					89.4		
				Discharge		69	
1/24	PM 11.47	1	40	155.2			
	.45	0	30	147			

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP .398	TEMP .1026	
2/23/97	PM 11.47	2	30	139			
	.50	5	"	136			
	.55	10	"	133.8			
2/24	AM 12.05	20	"	131.6			
	.15	30	"	129.5			
	.25	40	"	128			
	.45	60	"	126	89	76.2	
	1.05	80	"	124.2			
	.25	100	"	123			
	.45	120	"	121.9	89.7	76.7	
	2.05	140	"	121			
	.25	160	"	119.7			
	.45	180	"	118.5	90.5	77	
	3.05	200	"	117			
	.25	220	"	115.7			
	.45	240	"	113.4	91.5	77	
	4.05	260	"	110.2			
	.15	270	"	108.2			
	.25	280	"	105.9			
	.35	290	"	102.1			
	.44	299	"	100	92.5	77	-149.5

DATE	TIME	MIN	AMP	VOLTS 398	TEMP .1026	TEMP .1026	
2/24/97	AM	Charge				70	
	5.00	0	30	137	94	77.2	
	.02	2	"	142.2			
	.05	5	"	147			
	.10	10	"	152.5			
	.20	20	"	157.3			
	.30	30	"	160.4			
	.40	40	"	163			
	6.00	60	"	164	94	77.5	
	.20	80	"	164.2			
	.40	100	"	164.5			
	7.00	120	"	165	91.5	77.5	
	.20	140	"	165			
	.40	160	"	166			
	8.00	180	"	166.5	90.2	78	
	.20	200	"	167.2			
	.40	220	"	168.2			
	9.00	240	"	169.5	89	77.5	
	.20	260	"	170.7			
	.40	280	"	172			
	10.00	300	"	173.5	88.5	77.5	- 5 hrs.
					91.2		
2/24	AM	Discharge				70	
	10.03	-	open	155.5			
	.05	0	30	147			

DATE	TIME	MIN	AMP	VOLTS 398	TEMP 398	Bolle	
7/14	A.M. 10.07	2	30	1.387			
	.10	5	"	1.36			
	.15	10	"	1.337			
	.25	20	"	1.315			
	.35	30	"	1.297			
	.45	40	"	1.282			
	11.05	50	"	1.26	89.5	77.5	
	.15	60	"	1.245			
	.45	100	"	1.23			
	P.M. 12.05	120	"	1.22	89.5	77	
	.25	140	"	1.21			
	.45	160	"	1.197			
	1.05	180	"	1.193	90.5	77.2	
	.25	200	"	1.167			
	.45	220	"	1.15			
	2.05	240	"	1.125	93	77.5	
	.25	260	"	1.09			
	.35	270	"	1.065			
	.40	275	"	1.047			
	.45	280	"	1.022			
	.50	285	"	1.017			
	.54	289	"	1.00	93.7	76.5	-144.5

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	Bolle	
			Charge	E	71.		
7/14	P.M. 3.05	0	30	1.38	94.2	76.7	
	.7	2	"	1.427			
	.10	5	"	1.46			
	.15	10	"	1.512			
	.25	20	"	1.565			
	.35	30	"	1.605			
	.45	40	"	1.63			
	4.05	60	"	1.642	94.5	76.2	
	.25	80	"	1.645			
	.45	100	"	1.645			
	5.05	120	"	1.645	92.5	76.5	
	.25	140	"	1.652			
	.45	160	"	1.66			
	6.05	180	"	1.665	90.2	77	
	.25	200	"	1.675			
	.45	220	"	1.685			
	7.05	240	"	1.70	88.7	76	
	.25	260	"	1.72			
	.45	280	"	1.735			
	8.05	300	"	1.762	87.5	75	-5 hours
					94.2		

DATE	TIME	MIN.	AMP	VOLTS ≈ 3.78	TEMP ≈ 3.78	TEMP Solder	
				Discharge #71			
2-24-09	PM 8.08	open	—	1.575			
	.10	0	20	1.48			
	.12	2	"	1.395			
	.15	5	"	1.36			
	.20	10	"	1.337			
	.30	20	"	1.313			
	.40	30	"	1.295			
	.50	40	"	1.282			
	9.10	60	"	1.267	85	74	
	.30	80	"	1.243			
	.50	100	"	1.23			
	10.10	120	"	1.217	83.7	73.5	
	.30	140	"	1.21			
	.50	160	"	1.197			
	11.10	180	"	1.16.2	86	73.5	
	.20	200	"	116.8			
	.50	220	"	114.5			
2/25	12.10 AM	240	"	112.1	87	73	
	.30	260	"	109			
	.40	270	"	106.9			
	.50	280	"	104			
	1.00	290	"	100.2			
	.01/2	291/2	"	100	88.5	73	-145.9

DATE	TIME	MIN.	AMP	VOLTS ≈ 3.78	TEMP ≈ 3.78	TEMP Solder	
2/25	AM			Charge		72	
	7.10	0	30	136	73	73	
	.12	2	"	143.7			
	.15	5	"	147.9			
	.20	10	"	151.9			
	.30	20	"	158.1			
	.40	30	"	161.8			
	.50	40	"	164			
	8.10	60	"	165	92	74	
	.30	80	"	164.5			
	.50	100	"	164.6			
	9.10	120	"	165	91	75	
	.30	140	"	165.5			
	.50	160	"	166.2			
	10.10	180	"	167	87	74	
	.30	200	"	168			
	.50	220	"	169			
	11.10	240	"	170	88	74	-4.1 m.
				(89.2)			
2/25	PM			Discharge		72	
	5.10	—	0/2	153.2			
	.15	0	30	145			
	.17	2	"	137.6			
	.20	5	"	134.4			
	.25	10	"	132.1			

DATE	TIME	MIN	AMP	VOLTS .398	TEMP. 398	1045	
2/22/11	A.M. 5.55	20	30	129.8			
	6.00	30	"	127.6			
	5.55	40	"	126.5			
	6.00	50	"	124.2	88	79.5	
	5.55	60	"	123			
	6.00	100	"	121			
	7.00	120	"	120	89	75	
	5.55	140	"	118.1			
	6.00	160	"	116.1			
	8.15	180	"	114	89.2	74.7	
	35	200	"	110.7			
	55	220	"	106			
	9.15	240	"	98.7	90.2	74.5	- 120 to 98.7 V.

Charge # 73

DATE	TIME	MIN	AMP	VOLTS .398	TEMP. 398	1045	
2/25	A.M. 9.25	0	30	136	91	74.2	
	27	2	"	1.432			
	30	5	"	147			
	35	10	"	1.517			
	45	20	"	1.582			
	55	30	"	162			
	1.005	40	"	164			
	25	60	"	1.645	91.2	74	
	45	80	"	165			
	11.05	100	"	1.655			

DATE	TIME	MIN	AMP	VOLTS .398	TEMP. 398	1045	
2/25	A.M. 11.25	120	30	1.657	88.7	74.7	
	45	140	"	1.665			
	P.M. 12.05	160	"	167			
	25	180	"	1.677	87.2	73.7	
	45	200	"	1.681			
	1.05	220	"	170			
	25	240	"	1.712 (99.9)	86.5	73.7	- 4 hrs.

Discharge

DATE	TIME	MIN	AMP	VOLTS .398	TEMP. 398	1045	
2/25	P.M. 1.28	-	open	1.537			
	30	0	30	145			
	32	2	"	1.275			
	35	5	"	1.342			
	40	10	"	1.325			
	50	20	"	1.297			
	2.00	30	"	128			
	20	50	"	1.237			
	40	70	"	1.24	87.2	73.7	
	3.10	90	"	1.263			
	20	110	"	1.265			
	40	130	"	1.198	88	74.	
	4.00	150	"	1.177			
	20	170	"	1.157			
	40	190	"	1.124	89	74.2	
	5.00	210	"	1.085			

DATE	TIME	MIN	AMP	VOLTS	TEMP		
				398	398	Idle	
2/25	P.M. 5.10	220	30	1.057			
	15	225	"	1.09			
	20	230	"	1.022			
	25	235	"	1.002			
	26	236	"	1.00	90	74	-119

Charge # 74

DATE	TIME	MIN	AMP	VOLTS	TEMP		
2-25-09	P.M. 5.40	0	30	1.39	91	74	
	42	2	"	1.45			
	45	5	"	1.435			
	50	10	"	1.525			
	1.00	20	"	1.597			
	.10	30	"	1.62			
	.20	40	"	1.645			
	40	60	"	1.645	90	74	
	7.00	80	"	1.652			
	.20	100	"	1.655			
	.40	120	"	1.66			
	8.00	140	"	1.667	84.7	74.2	
	.20	160	"	1.675			
	.40	180	"	1.685	94.5	72.5	
	9.00	200	"	1.695			
	.20	220	"	1.713			
	.40	240	"	1.73	93.7	73.5	-4 hrs

(97.2)

DATE	TIME	MIN.	AMP	VOLTS	TEMP		
				398	398	Idle	

Discharge # 74

DATE	TIME	MIN.	AMP	VOLTS	TEMP		
2-25-09	P.M. 9.43	0	30	1.545			
	.45	2	"	1.46			
	.47	5	"	1.385			
	.50	10	"	1.363			
	.55	20	"	1.325			
	10.05	30	"	1.30			
	.15	40	"	1.285			
	.25	60	"	1.27			
	.45	80	"	1.252	85.5	73.2	
	11.05	100	"	123			
	.25	120	"	121.5			
	.45	140	"	120.1	86	73.2	
	A.M. 12.05	160	"	119.7			
	.25	180	"	119.7			
	.45	200	"	119.4	87.7	73.5	
	1.05	220	"	119			
	.25	240	"	118.6			
	.35	260	"	118.7			
	.45	280	"	118.5			
	.55	290	"	100	89.5	73.7	-120

Runs Continued in Vol. II.

A4 #398

Run	Charge	Disch.	Chg. Temp	Ampere+Hours to 1V.	Ampere+Hours to .50V.	Remarks
	Original Electrolyte - 216.9 g. KOH + 120 g. LiOH					
1	4 hrs. @ 15	Oct 30	—	216.5	229.2	NiO_2 Recd.
	Allowed to Stand 74 Hours					
2	10 hrs @ 30 amp 8 " "	Oct 60	82.2 / 63.4 / 90 / 63.3	125	206	
3	"	"		130	208	
4	15 hrs. @ 30	Oct 30	90.6	197	202	NiO_2 Recd.
5	"	"	93.2	199	203.7	" "
6	7 hrs @ 30	Oct 30	83.2	165.5	—	Prev. Add 76 hrs.
X 7	"	"	92.1	172.7	—	
8	"	"	91.2	170.7	—	
9	"	"	90.7	175	—	
10	"	"	88.3	173	—	
11	"	"	88.5	177.5	—	
12	"	"	90.3	175	—	
13	"	"	89.3	178	—	
14	"	"	91.9	179	—	
15	"	"	93.4	175	—	
16	"	"	78.8	173.5	—	Prev. Add 41 hrs.
17	"	"	91	176	—	
18	"	"	88.6	176.5	—	
X 19	"	"	90.6	176.5	—	
20	15 hrs @ 30	Oct 30	91.2	205	228.2	
21	"	"	91.7	208.5	223.5	
22	"	"	91.7	209	221.5	Elig. + Temp. Recd.
23	7 hrs @ 30	Oct 30	90.8	183.7	—	Prev. Add 56 hrs.

Run	Charge	Disch.	Chg. Temp	Ampere-Hours to 1V.	Ampere-Hours to .5V.	Remarks
24	7 hrs. @ 30	Oct 30	91	182.5	—	
25	"	"	90.6	183.5	—	
X 26	"	"	91.7	182.7	—	
27	12 hrs @ 10	"	81.6	187	—	
28	"	"	81.6	185	—	
29	"	"	81.7	186	—	(NiO_2 Recd)
30	10½ hrs @ 20	"	74.7	195	—	Prev. Add 27 hrs.
31	"	"	85.1	197	—	
32	"	"	85.5	196	—	(NiO_2 Recd)
33	7 hrs @ 30	"	90.2	182	—	
34	"	"	92.8	186	—	
X 35	"	"	88.9	182.5	—	(NiO_2 Recd)
36	5½ hrs @ 40	"	97.4	182.5	—	
37	"	"	97.5	175	—	
X 38	"	"	95.6	176.2	—	(NiO_2 Recd)
39	4½ hrs @ 50	"	87	168.7	—	Prev. Add 45 hrs.
40	"	"	92.1	171	—	
41	"	"	98.3	172.5	—	(NiO_2 Recd)
42	3½ hrs @ 60	"	100.6	167.2	—	
43	"	"	100.7	169.2	—	
44	"	"	101.9	165.7	—	(NiO_2 Recd)
45	2½ hrs @ 90	"	109.3	155.5	—	
46	"	"	109.3	154.5	—	(NiO_2 Recd)
47	7 hrs @ 30	"	90.4	178	—	
48	"	"	88.4	183.5	—	

(Page 7)

Run	Charge	Discharge	Ch. Temp	Ampere-Hours to 1V.	Ampere-Hours to .5V.	Remarks
x 49	7 hrs @ 30	Off 30	89.4	183.5	—	(Wire Oz Rend)
50	"	"	90.2	182.2	—	
51	15 hrs @ 30	Off 30	89.1	220	—	Prev. Stille 35 Hrs.
52	" 450 x	"	90.3	215	—	217.2 x
53	"	"	90.8	216.5	—	
54	12 hrs @ 30	"	90.5	215	—	Overdischarged 10 minutes (to .95)
55	" 360	"	90.9	215	—	216.5
56	"	"	90.7	219.7	—	
57	10 hrs @ 30	"	90.6	212.5	—	Prev. Stille 47 Hrs.
58	" 300	"	90.1	208.5	—	210.8
59	"	"	90.3	211.5	—	
60	8 hrs @ 30 240	"	89.2	201.5	—	
61	"	"	89.7	199	—	202.1
62	"	"	90.9	200	—	
63	7 hrs @ 30 210	"	89.6	197.7	—	198.1
64	"	"	88.3	198.5	—	
65	"	"	87.8	198.2	—	Stand Charged 32 Hours
66	6 hrs @ 30 180	"	90.8	170	—	
67	"	"	89.7	173.5	—	171.0
68	"	"	88.2	169.7	—	
69	5 hrs @ 30 150	"	89.4	149.5	—	
70	"	"	91.2	144.5	—	146.5
71	"	"	91.2	145.7	—	
72	4 hrs @ 30	"	89.2	120	—	To .97 V.
73	"	"	88.9	119	—	

Run	Charge	Discharge	Ch. Temp	Ampere-Hours to 1V.	Ampere-Hours to .5V.	Remarks
74	4 hrs @ 30	Off 30	87.2	120	—	*118.6
75	"	"	87.7	117.2	—	Record in Vol. II.
76	2 hrs @ 30	"	88.1	58.5	—	
77	"	"	88.2	60	—	
78	"	"	89.6	60	—	
79	"	"	90.7	59.2	—	
80	"	"	90.1	59.7	—	

Notebook, N-09-02-26.2

February 24, 1909.

A4 CELL #398,

VOLUME II.

Runs Continued from Vol. I.

DATE	TIME	MIN.	AMP	VOLTS	TEMP 398	TEMP 888	
2/22/09				Charge		75	
	AM 2.00	0	30	139	90	72.7	
	.02	2	"	145.1			
	.05	5	"	148.1			
	.10	10	"	153			
	.20	20	"	159.8			
	.30	30	"	162.7			
	.40	40	"	164.2			
	3.00	60	"	164.9	90	74	
	.20	80	"	165			
	.40	100	"	165			
	4.00	120	"	165.5	88	74	
	.20	140	"	166			
	.40	160	"	167			
	5.00	180	"	167.8	86	73.5	
	.20	200	"	168.6			
	.40	220	"	169.7			
	6.00	240	"	172	84.5	73	
					877		
				Discharge		75	
2/22	AM 6.00	—	1 pm	154.1			
	.05	0	30	145			
	.07	2	"	137.1			
	.10	5	"	135			
	.15	10	"	132			

DATE	TIME	MIN.	AMP	VOLTS	TEMP 398	TEMP 888	
2/22/09	AM 6.25	22	30	130			
	.35	32	"	128			
	.45	40	"	126.6			
	7.05	51	"	124.2	85	72.5	
	.25	70	"	122.7			
	.45	100	"	121.1			
	8.05	120	"	120.2	85	74.5	
	.25	140	"	118.5			
	.45	160	"	116.5			
	9.05	180	"	113.7	86.2	72.7	
	.25	200	"	110.2			
	.35	210	"	108			
	.45	220	"	105.3			
	.50	225	"	102.5			
	.55	230	"	101.7			
	.59½	234½	"	100	877	73.2	-11.72
				Charge		76	
2/26	P.M. 10.20	0	30	140	90	72.5	
	.22	2	"	145.8			
	.25	5	"	149.2			
	.30	10	"	154			
	.41	21	"	160.6			
	5.11	31	"	164			
	11.10	40	"	165			

DATE	TIME	MIN	AMP	VOLTS 398	TEMP. 398	TEMP. Adda	
7/26	P.M. 11.20	60	30	1.656	87.2	72.7	
	40	80	"	1.654			
	P.M. 11.00	100	"	1.657			5 amps high for 4 mins
	20	120	"	1.66	87	74	-2 hrs.
					88.2		
	P.M.		Discharge = 76				
7/26	12.23	-	Apm	151			
	25	0	30	1.42			
	27	2	"	1.352			
	30	5	"	1.325			
	35	10	"	1.295			
	45	20	"	1.265			
	55	30	"	1.24			
	1.05	40	"	1.222			
	25	60	"	1.182	89.7	74.7	
	.45	80	"	1.137			
	.55	90	"	1.105			
	2.05	100	"	1.077			
	.10	105	"	1.057			
	.15	110	"	1.04			
	.20	115	"	1.013			
	.22	117	"	1.00	89.2	74.7	-58.5

DATE	TIME	MIN	AMP	VOLTS 398	TEMP 398	TEMP Adda	
			Charge = 77				
7-26-00	P.M. 2.35	0	30	1.38	89.5	74.5	
	.37	2	"	1.445			
	.40	5	"	1.52			
	.45	10	"	1.562			
	.55	20	"	1.625			
	3.05	30	"	1.64			
	.15	40	"	1.647			
	.35	60	"	1.657	89.7	73	
	.55	80	"	1.66			
	4.15	100	"	1.663			
	.35	120	"	1.67	89.2	72.2	-2 hrs.
					88.2		
	P.M.		Discharge = 77				
7-26-00	4.38	-	30	1.51			
	.40	0	"	1.42			
	.42	2	"	1.345			
	.45	5	"	1.32			
	.50	10	"	1.297			
	5.00	20	"	1.26			
	.10	30	"	1.248			
	.20	40	"	1.22			
	.30	50	"	1.204			
	.40	60	"	1.185	89.7	74	
	.50	70	"	1.165			

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP: 398	TEMP: 66Ale	
	PM.						
2-26-09	6:00	80	30	1.14			
	.10	90	"	1.115			
	.20	100	"	1.08			
	.30	110	"	1.047			
	.35	115	"	1.025			
	.45	120	"	1.00	89.5	74	-60
				Charge #78			
2-26-09	PM. 6:45	0	30	1.36	89.5	74	
	47	2	"	1.24			
	.50	5	"	1.50			
	.55	10	"	1.67			
	7:05	20	"	1.62			
	.15	30	"	1.625			
	.25	40	"	1.64			
	.45	60	"	1.645	91	74.5	
	8:05	80	"	1.655			
	.25	100	"	1.66			
	.45	120	"	1.667	88	74	
					89.5		
				Discharge #78			
2-26-09	PM. 8:48	off	—	1.512			
	.50	0	30	1.42			
	.52	2	"	1.26			
	.55	5	"	1.322			

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	TEMP 66Ale	
	PM.						
2-26-09	9:00	10	30	1.297			
	.10	20	"	1.265			
	.20	30	"	1.242			
	.30	40	"	1.222			
	.40	50	"	1.205			
	.50	60	"	1.185	89	73.7	
	10:00	70	"	1.167			
	.10	80	"	1.342			
	.20	90	"	1.118			
	.30	100	"	1.094			
	.40	110	"	1.045			
	.45	115	"	1.023			
	.50	120	"	1.00	90.5	74	-60
				Charge #79			
2-26-09	PM. 11:05	0	30	1.424	90.5	74	
	.09	2	"	1.48			
	.10	5	"	1.525			
	.15	10	"	1.57			
	.25	20	"	162.2			
	.35	30	"	164			
	1:45	40	"	165.1			
2/27	AM. 12:35	60	"	165.3	91.5	75	
	.35	80	"	165.7			
	.45	100	"	165.9			

DATE	TIME	MIN	AMP	VOLTS 396	TEMPS 396	TEMPS 1066	
2/27/99	AM 1.05	120	30	166.7	90.2 (90.7)	74.7	
				Discharge		79	
2/27	AM 1.08	—	fm	150.5			
	.10	0	30	147			
	.12	2	"	154.7			
	.15	5	"	151.7			
	.20	10	"	127			
	.30	20	"	126			
	.40	30	"	124			
	.50	40	"	122			
	2.00	50	"	120.3			
	.10	60	"	118.9	91	75	
	.20	70	"	116.7			
	.30	80	"	114			
	.40	90	"	111.5			
	.50	100	"	108			
	3.00	110	"	103.7			
	.05	115	"	101.9			
	.08½	118½	"	100	91.7	74.7	-59.2

DATE	TIME	MIN	AMP	VOLTS 396	TEMPS 396	TEMPS 1066	
2/27/99				Charge		80	
	AM 5.20	0	30	141	92	74.7	
	.22	2	"	147.7			
	.25	5	"	151.7			
	.30	10	"	158			
	.40	20	"	163			
	.50	30	"	164			
	6.00	40	"	164.1			
	.20	60	"	165	90	74	
	.40	80	"	165.5			
	5.00	100	"	166.5			
	.20	120	"	167.8	88.2	74.5	
					(90.1)		
				Discharge		80	
2/27	AM 5.20	—	fm	151.5			
	.25	0	30	147			
	.27	2	"	136			
	.30	5	"	132			
	.35	10	"	129.5			
	.45	20	"	126.3			
	.55	30	"	124.3			
	6.05	40	"	122.5			
	.15	50	"	120.7			
	.25	60	"	119	92	74.5	
	.35	70	"	117			

DATE	TIME	MIN	AMP	VOLTS	TEMP 39K	TEMP 10K	
2/27/19	AM 6.45	80	30	1146			
	.55	90	"	1112			
	7.05	100	"	1072			
	.15	110	"	105			
	.20	115	"	102			
	.24½	119½	"	100	91.7	74.5	-59.7
2/27	AM 7.25	Charge #1 0	30	141	96.7	74.5	
	.30	2	"	147.8			
	.40	5	"	150.5			
	.45	10	"	158			
	.50	20	"	163			
	7.55	30	"	164.2			
	.15	40	"	164.5			
	.35	60	"	165	93.7	73.2	
	.55	80	"	165.7	"		
	8.15	100	"	167			
	.35	120	"	168	92.5	73.5	
	.55	140	"	169			
	9.15	160	"	169.2			
	.35	180	"	169.7	94.7	73.5	
	.55	200	"	170.5			
	10.15	220	"	171.5			

DATE	TIME	MIN	AMP	VOLTS 39K	TEMP 39K	TEMP 10K
2/28	AM 11.35	240	30	1125	94.3	74
					93.1	
				Discharge #1		
2/28	AM 11.38	—	off	1542		
	.40	0	30	1427		
	.42	2	"	1377		
	.45	5	"	1346		
	.50	10	"	1327		
	PM 12.05	20	"	1302		
	.10	30	"	1285		
	.20	40	"	1272		
	.40	60	"	1252	89.5	73.7
	1.00	80	"	1225		
	.20	100	"	1217		
	.40	120	"	1207	87	73.5
	2.00	140	"	1195		
	.20	160	"	1175		
	.40	180	"	1147	90.5	74.2
	.50	190	"	1137		
	3.00	200	"	1118		
	.10	210	"	1098		
	.20	220	"	1075		
	.25	225	"	1062		
	.30	230	"	1045		
	.35	235	"	[illegible]		

DATE	TIME	MIN	AMPS	VOLTS 39K	TEMP. 39K	TEMP. 39K Side	
2-27-09	P.M. 3.40	240	30	1002			
	41½	241½	"	100	93.2	74.5	= 120.7

Stood forty one (41) hours over Sunday. MJ

3/1	AM	Charge		#82			
	8.20	0	30	151	75.2	74.5	
	22	2	"	159			
	25	5	"	122.2			
	30	10	"	167			
	40	20	"	170.5			
	50	30	"	174.5			
	9.00	40	"	1698			
	20	60	"	1685	77	74.2	
	40	80	"	1685			
	10.00	100	"	1687			
	20	120	"	169	81	74	
	40	140	"	1694			
	11.00	160	"	169.7			
	20	180	"	170	82	74.5	
	P.M. 10	200	"	1707			
	P.M. 12.00	220	"	172	(80.2)		
	20	240	"	1733	83.5	74	

DATE	TIME	MIN	AMPS	VOLTS 39K	TEMP 39K	TEMP 39K Side	
	P.M.			Discharge #82			
3-1-09	12.23	-	Open	125			
	25	0	30	145			
	27	2	"	1277			
	30	5	"	135			
	35	10	"	1327			
	45	20	"	1302			
	55	30	"	1285			
	1.05	40	"	1275			
	25	60	"	1245	85	73.2	
	45	80	"	1232			
	2.05	100	"	1215			
	25	120	"	1200	84.5	72	
	45	140	"	1185			
	3.05	160	"	1165			
	25	181	"	113.7	84.5	72	
	45	200	"	1105			
	5.5	210	"	1078			
	4.05	220	"	1047			
	10	225	"	1035			
	15	230	"	1012			
	18½	233	"	1000	82.5	70.2	= 116.7

DATE	TIME	MIN	AMP	VOLTS 398	TEMP 398	TEMP Idle
				Charge		83
	P.M.					
3-1-09	4.20	0	30	1.49	87	70.5
	32	2	"	1.475		
	35	5	"	1.505		
	40	10	"	1.56		
	55	20	"	1.61		
	5.00	30	"	1.656		
	10	40	"	1.657		
	30	60	"	1.655	89	71.5
	50	80	"	1.65		
	6.10	100	"	1.659		
	30	120	"	1.662	892	72.2
	50	140	"	1.67		
	7.10	160	"	1.675		
	30	180	"	1.68	87	72.5
	50	200	"	1.692		
	8.10	220	"	1.709		
	30	240	"	1.725	87	72.5 — 4 hrs.
					87.4	
				Discharge	83	
	P.M.					
3-1-09	8.33	—	40 amp	1.537		
	35	0	30	1.469		
	37	2	"	1.40		
	40	5	"	1.36		
	45	10	"	1.355		

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	TEMP Idle
	P.M.					
3-1-09	8.55	20	30	1.317		
	9.05	30	"	1.287		
	15	40	"	1.277		
	35	60	"	1.255	88	72.5
	55	80	"	1.235		
	10.15	100	"	1.215		
	35	120	"	1.202	88.7	74.2
	55	140	"	1.19		
	11.15	160	"	117.4		
	35	180	"	114.5	91	75
	55	200	"	111		
	A.M.					
3/2	12.05	210	"	109		
	15	220	"	106.1		
	25	230	"	103		
	35	235	"	101		
	52	237	"	100	92.5	75.5 = 11 hrs.
3/2				Charge	84	
	AM					
	12.40	0	30	140	92.5	75.5
	42	2	"	145.9		
	45	5	"	149.5		
	50	10	"	145.4		
	1.00	20	"	143		
	10	30	"	142		

DATE	TIME	MIN	AMP	VOLT. 39V	TEMP. 39V	TEMP. 1266	
2/1/09	AM 12.00	40	30	164.2			
	1.00	60	"	164.5	92	74.5	
	2.00	80	"	164.7			
	3.00	100	"	164.4			
	4.00	120	"	165.9	89.5	74.5	
	5.00	140	"	166.2			
	6.00	160	"	167			
	7.00	180	"	168	88	74	
	8.00	200	"	169			
	9.00	220	"	170.3			
	10.00	240	"	172.1	87	74	-4 hrs.
					(90)		
				Discharge	—	84	
2/2	AM 9.45	—	40	152.5			
	10.00	5	30	146.2			
	10.15	20	"	136.2			
	10.30	35	"	134.2			
	10.45	50	"	133			
	11.00	20	"	131.2			
	11.15	30	"	128.1			
	11.30	40	"	126.5			
	11.45	50	"	125	88.5	74	
	12.00	60	"	123			
	12.30	100	"	121.8			
	1.45	120	"	120	88	73.5	

DATE	TIME	MIN	AMP	VOLT. 39V	TEMP. 39V	TEMP. 1266	
2/1/09	AM 7.00	140	30	118.2			
	7.25	160	"	116.4			
	7.45	180	"	114	89.2	73.2	
	8.00	200	"	110.2			
	8.15	210	"	107.8			
	8.25	220	"	104.7			
	8.35	230	"	101.2			
	8.38	233	"	100	91	73.5	-116.5
2/2				Charge	—	85	
	AM 1.45	5	30	1.40	91.2	73.5	charge (6) hours
	1.47	2	"	1.45.5			
	1.50	5	"	1.48			
	1.55	10	"	1.53			
	9.00	20	"	1.59.5			
	9.15	30	"	1.63.2			
	9.25	40	"	1.64.2			
	9.40	60	"	1.64.8	91.5	74.2	
	10.05	80	"	1.64.5			
	10.25	100	"	1.65			
	10.45	120	"	1.65.7	90.2	74.5	
	11.05	140	"	1.66.2			
	11.25	160	"	1.66.2			
	11.45	180	"	1.67	89.5	75	

DATE	TIME	MIN	AMPS	VOLTS 39V	TEMP 39B	TEMP 28B	
3/2/09	P.M. 1.05	200	30	1.69			
	25	220	"	1.705			
	45	240	"	1.722	89.2	76	
	1.05	260	"	1.735			
	25	280	"	1.745			
	45	300	"	1.75	90	76.5	
	2.05	320	"	1.76			
	25	340	"	1.77			
	45	360	"	1.77	91	76.7	-6 hrs
					90.3		
			Discharge #5				
3/2/09	P.M. 2.45	—	Open	1.577			
	50	0	30	1.49			
	52	2	"	1.415			
	55	5	"	1.377			
	3.00	10	"	1.36			
	10	20	"	1.332			
	20	30	"	1.315			
	30	40	"	1.30			
	50	60	"	1.277	91.5	77	
	4.10	80	"	1.258			
	30	100	"	1.244			
	50	120	"	1.23	91	77	
	5.10	140	"	1.22			
	30	160	"	1.21			

DATE	TIME	MIN.	AMP	VOLTS 39	TEMP 28B	TEMP 28B2	
3-2-09	P.M. 5.50	180	30	1.20	91	77	
	6.10	200	"	1.187			
	30	220	"	1.175			
	50	240	"	1.16	92.7	77.5	
	7.10	260	"	1.137			
	30	280	"	1.105			
	50	300	"	1.045	95.2	78.2	
	8.00	310	"	1.04			
	10	320	"	1.012			
	14	324	"	1.00	96	78.5	-16.2
				Charge #6			
3-2-09	P.M. 8.30	0	30	1.40	95.7	78.5	
	32	2	30	1.46			
	35	5	"	1.485			
	40	10	"	1.51			
	50	20	"	1.565			
	9.00	30	"	1.605			
	10	40	"	1.635			
	30	60	"	1.642	96.2	78	
	60	80	"	1.645			
	10.10	100	"	1.647			
	30	120	"	1.655	96.5	78.5	
	50	140	"	1.68			

DATE	TIME	MIN.	AMP	VOLTS	TEMP 398	TEMP 1188	
3-2-09	P.M. 11.10	160	30	166			
	.30	180	"	169	92.5	78.5	
	.50	200	"	167.8			
3/3	AM 12.10	270	"	166.4			
	.30	240	"	169.4	89.5	74.5	
	.50	260	"	171			
	1.10	280	"	172.1			
	.30	300	"	172.8	88	77.2	
	.50	320	"	173.3			
	2.10	340	"	176.4			
	.30	360	"	178.2	87.5	78.5	-6 lbs.
					(91.2)		
				Discharge			
3/3	AM 2.55	—	30	151.2			
	.35	0	30	149			
	.37	2	"	141			
	.40	5	"	138			
	.45	10	"	136.1			
	.55	20	"	133.2			
	3.05	30	"	131.5			
	.15	40	"	130			
	.25	60	"	127.6	88	76.5	
	.35	80	"	126.7			
	4.15	100	"	124			
	.35	120	"	122.6	89	75	

DATE	TIME	MIN.	AMP	VOLTS	TEMP 398	TEMP 1188	
3/3	AM 4.55	140	30	121.7			
	5.15	160	"	120.8			
	.35	180	"	120	92	77	
	.55	200	"	118.9			
	6.15	220	"	117.8			
	.35	240	"	116	92.5	76.5	
	.55	260	"	113.7			
	7.15	280	"	110.5			
	.35	300	"	107.8	91	76	
	.45	310	"	106			
	.55	320	"	102.6			
	8.06	331	"	100	94.5	75.7	-165.5
				Charge #27			
3/3	AM 8.20	0	30	138	95	75.7	
	22	2	"	145.8			
	25	5	"	149			
	30	10	"	152			
	40	20	"	157			
	50	30	"	161.5			
	9.00	40	"	163.8			
	20	60	"	166.2	91.7	74	
	40	80	"	165.2			
	10.00	100	"	165.7			
	20	120	"	166	90.5	75.5	

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Nile	
3-2-09	PM 10.40	140	30	1.666			
	11.00	160	"	1.677			
	20	180	"	1.677	76.5	72.2	
	40	200	"	1.685			
	PM 1.00	220	"	1.697			
	20	240	"	1.705	86	73	
	40	260	"	1.718			
	1.00	280	"	1.73			
	20	300	"	1.745	85	72.7	
	40	340	"	1.76			
	2.00	340	"	1.775			
	20	360		1.795	86.2	73.5	-6 hrs
					88.4		
				Discharge #87.			
3-2-09	PM 2.23	-	Open	1.982			
	25	0	30	1.49			
	27	2	"	1.462			
	30	5	"	1.378			
	35	10	"	1.337			
	45	20	"	1.33			
	55	30	"	1.315			
	3.05	40	"	1.297			
	25	60	"	1.275	86	73	
	45	80	"	1.257			
	4.05	100	"	1.24			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Nile	
3/2/09	PM 4.25	120	30	1.236	85	71.7	
	45	140	"	1.217			
	5.05	160	"	1.202			
	25	180	"	1.197	85.6	71	
	45	200	"	1.186			
	6.05	220	"	1.175			
	25	240	"	1.16	84	71.5	
	45	260	"	1.14			
	7.05	280	"	1.112			
	25	300	"	1.095	89.5	72	
	35	310	"	1.052			
	45	320	"	1.02			
	52	327	"	1.00	89.7	72.5	-163.5
				Charge #88			
3-3-09	PM 8.05	0	30	1.38	90.7	72.5	
	07	2	"	1.44			
	10	5	"	1.46			
	15	10	"	1.52			
	25	20	"	1.57			
	35	30	"	1.615			
	45	40	"	1.637			
	9.05	60	"	1.64	90.5	73	
	25	80	"	1.64			

DATE	TIME	MIN.	AMP	VOLTS	TEMP 398	TEMP Water	
3-2-09	P.M. 9.45	100	30	166.5			
	10.05	120	"	166.9	87.5	73.7	
	.25	140	"	166			
	.45	160	"	166.5			
	11.05	180	"	167.4	88.5	73	
	.25	200	"	168.2			
	.45	220	"	169			
3/4	A.M. 12.05	240	"	170	85.5	73.7	
	.25	260	"	171.7			
	.45	280	"	172.7			
	1.05	300	"	174	85.5	73.7	
	.25	320	"	176			
	.45	340	"	177			
	2.05	360	"	180	85	73	
	.25	380	"	181			
	.45	400	"	182			
	3.05	420	"	182.3	85	73	-7 Qm.
					87		
3/4	A.M. 3.05	-	7m	157	Discharge		88
	.10	0	30	152			
	.12	2	"	141.9			
	.15	5	"	131.8			
	.20	10	"	126.2			
	.30	25	"	123.8			

DATE	TIME	MIN.	AMP	VOLTS	TEMP 398	TEMP Water	
3/1/09	A.M. 3.40	30	30	121.5			
	.50	40	"	121.7			
	4.10	60	"	122.9	85	71	
	.30	80	"	124			
	.50	100	"	124.4			
	5.10	120	"	123	84.5	71	
	.30	140	"	122.1			
	.50	160	"	121.4			
	6.10	180	"	120.2	83.5	71	
	.30	200	"	119.5			
	.50	220	"	117			
	7.10	240	"	116.5	83.5	70.2	
	.30	260	"	116			
	.50	280	"	114.1			
	8.10	300	"	112.5	85.2	70.2	
	.30	320	"	109.5			
	.40	330	"	109.4			
	.50	340	"	105.8			
	.55	345	"	108			
	9.00	350	"	103.5			
	.05	355	"	102.2			
	.10	360	"	101			
	.13	363	"	100	88.2	71	-121.5

DATE	TIME	MIN	AHRS	VOLTS 398	TEMP 398	Sells
				Charge # 89		
3-4-09	P.M. 9.20	0	30	1.58	90	70.5
	.22	2	"	1.427		
	.25	5	"	1.49		
	.30	10	"	1.502		
	.40	20	"	1.562		
	.50	30	"	1.60		
	10.00	40	"	1.63		
	.20	60	"	1.655	89	70.5
	.40	80	"	1.658		
	11.00	100	"	1.659		
	.20	120	"	1.662	87	70.7
	.40	140	"	1.665		
	P.M. 1.00	160	"	1.67		
	.20	180	"	1.677	85	70.7
	.40	200	"	1.684		
	1.00	220	"	1.692		
	.20	240	"	1.701	84	70.7
	.40	260	"	1.708		
	2.00	280	"	1.722		
	.20	300	"	1.74	83.7	71.5
	.40	320	"	1.752		
	3.00	340	"	1.77		
	.20	360	"	1.792	84	71.7
	.40	380	"	1.82		

DATE	TIME	MIN	AHRS	VOLTS 398	TEMP 398	Sells
3-4-09	P.M. 4.00	400	30	1.912		
	.30	420	"	1.839	83.7	70.5
					(95.7)	
				Discharge # 89		
3-4-09	P.M. 4.23	-	Open	1.598		
	.25	0	30	1.50		
	.27	2	"	1.415		
	.30	5	"	1.385		
	.35	10	"	1.365		
	.45	20	"	1.341		
	.55	30	"	1.322		
	5.05	40	"	1.307		
	.25	60	"	1.28	83.7	70.7
	.45	80	"	1.262		
	6.05	100	"	1.247		
	.25	120	"	1.235	84	71
	.45	140	"	1.225		
	7.05	160	"	1.22		
	.25	180	"	1.205	83.5	71.2
	.45	200	"	1.20		
	8.05	220	"	1.192		
	.25	240	"	1.18	83	71.7
	.45	260	"	1.167		
	9.05	280	"	1.145		
	.25	300	"	1.14	82.5	

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	Delta	
3-4-09	PM 9.45	330	30	1.05			
	10.05	340	"	1.062			
	.15	350	"	1.045			
	.25	360	"	1.02	91	73.7	
	.31	366	"	1.00			-183
			Charge "90				
3-4-09	PM 10.00	0	30	1.34	93	73	
	.42	2	"	1.45			
	.45	5	"	1.47			
	.50	10	"	1.50			
	11.00	20	"	1.545			
	.10	30	"	1.595			
	.20	40	"	1.62			
	.40	60	"	1.644	97.7	73.2	
3/5	AM 12.00	90	"	1.65			
	.20	100	"	1.652			
	.40	120	"	1.65.5	89	74	
	1.00	140	"	1.657			
	.20	160	"	1.66			
	.40	180	"	1.655	87.0	74	
	2.00	200	"	1.67			
	.20	220	"	1.68			
	.40	240	"	1.695	85.5	73	
	3.00	260	"	1.70			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMPS 398	1064	
3/5/09	AM 3.20	280	30	171.4			
	.40	300	"	173.2	83.5	72	
	4.00	320	"	174.4			
	.20	340	"	176.1			
	.40	360	"	177.1	84	71.5	
	5.00	380	"	180			
	.20	400	"	182			
	.40	420	"	183	85.5	71.7	
					(97.0)		
			Discharge "90				
3/5	AM 5.40	—	7h	159			
	.45	0	30	149			
	.47	2	"	141.9			
	.50	5	"	137.8			
—	.55	10	"	136.2			
	6.05	20	"	133.7			
	.15	30	"	132			
	.25	40	"	130.5			
	.45	60	"	128	86	71	
	7.05	80	"	126			
	.25	100	"	124.3			
	.45	120	"	123.3	84	70.2	
	8.05	140	"	122.5			
	.25	160	"	121.7			
	.45	180	"	120.6	83.7	71	

DATE	TIME	MIN	AMP	VOLTS 395	TEMP 398	Idle	
2-5-09	P.M. 9.05	200	30	1.20			
	25	220	"	1.19			
	45	240	"	1.18	88	71.7	
	10.05	260	"	1.167			
	25	280	"	1.15			
	45	300	"	1.13	89	72	
	11.05	320	"	1.06			
	25	340	"	1.07			
	35	350	"	1.05			
	40	355	"	1.041			
	45	360	"	1.022	91.5	72.7	
	51	366	"	1.004			
	53	368	"	1.00	92	72.7	-184
				at			
				Change # 91			
3-5-09	P.M. 1.20	–	30	1.43	86.5	72.5	
	22	2	"	1.497			
	25	5	"	1.517			
	30	10	"	1.545			
	40	20	"	1.597			
	50	30	"	1.627			
	2.00	40	"	1.65			
	20	60	"	1.67	86.5	73	
	40	80	"	1.667			
	3.00	100	"	1.665			

DATE	TIME	MIN	AMP	VOLTS 395	TEMP 398	Idle	
3-5-09	P.M. 3.20	120	30	1.666	86.2	74	
	40	140	"	1.675			
	4.00	160	"	(1.67)			
	20	180	"	1.68	85.5	74.2	
	40	200	"	1.685			
	5.00	220	"	1.697			
	20	240	"	1.71	85.7	74.2	
	40	260	"	1.715			
	6.00	280	"	1.722			
	20	300	"	1.72	86	74	
	40	320	"	1.742			
	7.00	340		1.745			
	20	360		1.78	86.5	74.2	
	40	380		1.80			
	8.00	400		1.82			
	20	420		1.825	89	74.5	
	40	440		1.83			
	9.00	460		1.835			
	20	480		1.835	90.5	74.5	-8 hrs.
					(86.7)		
				Change # 91			
3-6-09	P.M. 9.20	–	40	1.595			
	25	0	30	1.615			
	27	2	"	1.625			
	30	5	"	1.645			

DATE	TIME	MIN	AMP	VOLTS 398	TEMP. 398	TEMP. Idle	
2-5-09	9.35	10	20	1325			
	.45	20	"	1325			
	.55	30	"	1322			
	10.05	40	"	1317			
	.25	60	"	1245	91.7	74.5	
	.45	80	"	1237			
	11.05	100	"	1225			
	.25	120	"	1242	91.5	74.7	
	.45	140	"	1235			
	12.05	160	"	1232			
	.25	180	"	1217	92.2	75	
	.45	200	"	1211			
	1.05	220	"	1202			
	.25	240	"	119	92.5	76	
	.45	260	"	118			
	2.05	280	"	116.9			
	.25	300	"	115.6	93	76.7	
	.45	320	"	112.2			
	3.05	340	"	111			
	.25	360	"	107.6	93.5	75.5	
	.45	373	"	105.5			
	.40	375	"	104			
	.45	380	"	102.4			
	.50	385	"	100.1			
	.53	388	"	100	94	75.5	=194

DATE	TIME	MIN	AMP	VOLTS 398	TEMP. 398	TEMP. IDLE	
3/1/09	AM		Charge		92		
	4.00	0	130	134	93.5	75.5	
	.02	2	"	141.7			
	.05	5	"	145.4			
	.10	10	"	149			
	.20	20	"	155			
	.30	30	"	158.4			
	.40	40	"	172.1			
	5.00	60	"	164.6	93.5	75	
	.20	80	"	165			
	.40	100	"	165			
	6.00	120	"	165.5	92.2	74.7	
	.20	140	"	165.9			
	.40	160	"	166			
	7.00	180	"	166.2	89.5	75.2	
	.20	200	"	166.5			
	.40	220	"	167.5			
	8.00	240	"	168	89	76	
	.20	260	"	169.7			
	.40	280	"	170			
	9.00	300	"	172	89.7	75.5	
	.20	320	"	173			
	.40	340	"	174			
	10.00	360	"	175	89.7	74.7	
	.20	380	"	175			

DATE	TIME	MIN.	AMP.	VOLTS	TEMP.		
				398	398	delta	
	P.M.						
3-6-09	10.45	400	30.	1.31			
	1100	420	"	1.25	88	74	
	.20	440	"	1.22			
	.40	460	"	1.24			
	1200	480	"	1.24	91	76	-8 hours
	P.M.						
3-6-09	1203	-	start	1.59			
	.05	0	30	1.51			
	.09	2	"	1.42			
	.10	5	"	1.32			
	.15	10	"	1.32			
	.25	20	"	1.34			
	.35	30	"	1.34			
	.45	40	"	1.37			
	1.05	60	"	1.32	90	75	
	.25	80	"	1.32			
	.45	100	"	1.25			
	2.05	120	"	1.24	90	73	
	.25	140	"	1.23			
	.45	160	"	1.22			
	3.05	180	"	1.16	89	72	
	.25	200	"	1.08			
	.45	220	"	1.07			
	4.05	240	"	1.07	90	74	

Discharge 92

DATE	TIME	MIN.	AMP	VOLTS	TEMP.		
				398	398	delta	
	P.M.						
3-6-09	4.25	260	30	1.18			
	45	280	"	1.16			
	5.05	300	"	1.15	92	73	
	.25	320	"	1.13			
	.45	340	"	1.107			
	6.05	360	"	1.077	93	74	
	.15	370	"	1.055			
	.20	375	"	1.041			
	.25	380	"	1.026			
	.30	385	"	1.008			
	33	388	"	1.00	94	74	-1042

Stood (this for + half (35½) hours over Sunday 74

3/8			Charge		93		
	AM						
	6.00	0	30	1.49	73.5	72	
	.02	2	"	1.55			
	.05	5	"	1.59			
	.10	10	"	1.63			
	.20	20	"	1.62			
	.30	30	"	1.62			
	.40	40	"	1.627			
	7.00	60	"	1.65	74	73.5	
	.20	80	"	1.67			

DATE	TIME	MIN	AMPS	VOLTS	TEMPS		
				392	391	1015	
3/8/09	AM 7.45	100	30	1681			
	8.00	120	"	1682	80.2	74	
	20	140	"	1686			
	40	160	"	1688			
	9.00	180	"	1691	81	73.7	
	20	200	"	1695			
	40	220	"	1702			
	10.00	240	"	171	81.2	73.5	
	20	260	"	1716			
	40	280	"	1727			
	11.00	300	"	1737	82.2	73.2	
	20	320	"	1745			
	40	340	"	176			
	PM 12.00	360	"	1772	83.2	73.2	
	20	380	"	1795			
	40	400		182			
	1.00	420		1835	86	73.7	
	20	440		1844			
	40	460		1844			
	2.00	480		1846	87.7	74	-8 hrs.
					(81)		
				Discharge #9.8			
3-8-09	PM 2.03	–	Open	1595			
	05	10	30	157			
	07	2		142			

DATE	TIME	MIN	AMPS	VOLTS	TEMPS.		
				392	392	1015	
3-8-09	PM 2.10	5	30	1325			
	15	10	"	1362			
	25	20	"	1345			
	35	30	"	1335			
	45	40	"	1315			
	3.05	60	"	1276	87.2	74	
	25	80	"	1266			
	45	100	"	125			
	4.05	120	"	1238	88.2	74	
	25	140	"	1226			
	45	160	"	122			
	5.05	180	"	1212	88.2	74	
	25	200	"	1205			
	45	220	"	120			
	6.05	240	"	1192	90.2	74.5	
	25	260	"	1182			
	45	280	"	117			
	7.05	300	"	1167	92	75	
	25	320	"	1155			
	45	340	"	5.115			
	8.05	360	"	1.132	93.2	75	
	25	380	"	1.125			
	45	400	"	1.122			
	9.05	420	"	1.120	94	75.2	-10.15

DATE	TIME	MIN	AMPS	VOLTS 394	TEMP 394	TEMP Ville
				Charge # 94		
3-2-09	PM 9.40	0	30	156	94.2	75
	42	2	"	143		
	45	5	"	146.5		
	50	10	"	150		
	9.00	20	"	156		
	10	30	"	160		
	20	40	"	162		
	40	60	"	165.5	95	75.5
	10.00	80	"	166		
	20	100	"	162.7		
	40	120	"	165.7	93	76
	11.02	142	"	166		
	20	160	"	166.1		
	40	180	"	166.2	91.5	76
3/9	AM 12.00	200	"	167		
	20	220	"	167.8		
	40	240	"	168.5	90	76
	1.00	260	"	169.7		
	20	280	"	170.7		
	40	300	"	171.8	90	76
	2.00	320	"	173		
	20	340	"	173.8		
	40	360	"	175.5	90	76.5
	3.00	380	"	177		

DATE	TIME	MIN	AMPS	VOLTS 394	TEMP 394	TEMP Ville
3/9/9	AM 3.20	400	30	179.9		
	40	420	"	182.1	91	76.5
	4.00	440	"	183.3		
	20	460	"	184		
	40	480	"	184	92	76.2
					91.8	— 8 Rus.
3/9				Discharge	94	
	AM 4.43	—	4	159		
	45	0	20	150		
	47	2	"	142.7		
	50	5	"	139		
	55	10	"	137		
	5.05	20	"	134.5		
	15	30	"	132.9		
	25	40	"	131.7		
	45	60	"	128.9	92	76
	6.05	80	"	127		
	25	100	"	125.8		
	45	120	"	124.2	92	76.5
	7.05	140	"	123.2		
	25	160	"	122.2		
	45	180	"	121.9	92	76.2
	8.05	202	"	121		
	25	220	"	120.1		
	45	240	"	119.1	91	76.5

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP. 398	TEMP. Idle	
3-9-09	9.05	260	30	1.192			
	25	270	"	117			
	45	300	"	1.157	90.7	75.5	
	10.05	320	"	1.137			
	25	340	"	1.114			
	45	360	"	1.063			
	55	370	"	1.065	91.5	75	
	11.00	375	"	1.05			
	11.05	380	"	1.038			
	11.10	385	"	1.017			
	15	390	"	1.002			
	1.52	3.98	"	1.00	92	75	-19.5.3

Change #95

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP. 398	TEMP. Idle	
3-9-09	PM 1.40	=	30	1.29	93	75	
	42	2	"	1.452			
	45	5	"	1.47			
	50	10	"	1.512			
	PM 1.55	20	"	1.565			
	1.0	30	"	1.595			
	20	40	"	1.63			
	40	60	"	1.655	91.5	75	
	1.00	80	"	1.659			
	20	100	"	1.658			
	40	120	"	1.66	92	75.2	

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Idle	
3-9-09	PM 1.00	140	30	1.66			
	20	160	"	1.662			
	40	180	"	1.663	89	76	
	3.00	200	"	1.669			
	20	220	"	1.672			
	40	240	"	1.68	88.7	76	
	4.00	260	"	1.69			
	20	280	"	1.70			
	40	300	"	1.717	88.7	76.2	
	5.00	320	"	1.723			
	20	340	"	1.74			
	40	360	"	1.75	89	76.2	
	6.00	380	"	1.772			
	20	400	"	1.815			
	40	420	"	1.832	90	77	
	7.00	440	"	1.84			
	20	460	"	1.842			
	40	480	"	1.842	92	77.2	
	8.00	500	"	1.845			
	20	520	"	1.842			
	40	540	"	1.844	94	77.2	
	9.00	560	"	1.845			
	20	580	"	1.851			
	40	600	"	1.8	95	77.2	-10.5 hrs

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 399	Idle	
		Discharge 95					
3-9-09	PM 9.43	0	Amy -	1.545			
	.45	0	30	1.50			
	.47	2	"	1.44			
	.50	5	"	1.39			
	.55	10	"	1.377			
	10.05	20	"	1.363			
	.15	30	"	1.342			
	.25	40	"	1.325			
	.45	60	"	130.2	96.2	77.5	
	11.05	80	"	127.9			
	.25	100	"	126.3			
	.45	120	"	125	94	77.7	
3/10	AM 12.05	140	"	123.9			
	.25	160	"	123			
	.45	180	"	122.1	94.5	78	
	1.05	200	"	121.3			
	.25	220	"	120.5			
	.45	240	"	120	95	78.2	
	2.05	260	"	119.4			
	.25	280	"	118.2			
	.45	300	"	117	95.5	78	
	3.05	320	"	116.8			
	.25	340	"	115.5			
	.45	360	"	114	95.5	78	

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	3/12	
3/10/09	AM 4.05	380	30	106.3			
	.15	390	"	106.7			
	.25	400	"	104			
	.35	410	"	101			
	.37½	412½	"	100	97.5	78	-206.2
3/10	AM	Charge 96					
	5.00	0	30	138	96.7	77.7	
	.02	2	"	143			
	.05	5	"	146			
	.10	10	"	149.8			
	.20	20	"	155.5			
	.30	30	"	158.2			
	.40	40	"	161.3			
	6.00	60	"	163.1	95	77.5	
	.20	80	"	165			
	.40	100	"	165			
	7.00	120	"	165	93.7	78	
	.20	140	"	165			
	.40	160	"	165.7			
	8.00	180	"	166	91.5	78	
	.20	200	"	166.9			
	.40	220	"	167.8			
	9.00	240	"	168.7	90	78.5	

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Idle	
	AM.						
3-10-69	9.20	260	30	1685			
	40	280	"	1697			
	10.00	300	"	1706	89	77	
	20	320	"	1718			
	40	340	"	1725			
	11.00	360	"	1735	90.7	77.2	
	20	380	"	175			
	40	400	"	180			
	PM. 12.00	420	"	1.917	93	77.7	
	20	440	"	192			
	40	460	"	1845			
	1.00	480	"	185	92	76.5	
	20	500	"	1852			
	40	520	"	1852			
	2.00	540	"	1858	91.5	76	
	20	560	"	1857			
	40	580	"	186			
	3.00	600	"	186	91	76	~10 line
					9314		
				Lechange # 96			
3-10-69	PM. 3.03	-	Open	1859			
	05	0	30	187			
	07	2	1	187			
	10	5		187			
	15	10		187			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP. 398	TEMP. Idle	
	PM.						
3-10-69	3.25	20	30	1.257			
	35	30	"	1.225			
	45	40	"	1.217			
	4.05	60	"	1.29	99.5	74.5	
	25	80	"	127			
	45	100	"	1.253			
	5.05	120	"	1.238	88	74.2	
	25	140	"	1.226			
	45	160	"	1.217			
	6.05	180	"	121	95	74	
	25	200	"	1.202			
	45	220	"	1.195			
	7.05	240	"	119	96.5	74.2	
	25	260	"	1.182			
	45	280	"	1.173			
	8.05	300	"	1.169	95	74	
	25	320	"	1.157			
	45	340	"	1.145			
	9.05	360	"	1.092	92	75	
	25	380	"	1.067			
	35	390	"	1.052			
	45	400	"	1.02			
	45	400	"	1.00	98	73	-202.2

DATE	TIME	MIN.	AMP	VOLTS	TEMP 39F	TEMP Dew
				Charge #97		
	P.M.					
3-10-09	1:00	0	30	137	86.7	79.5
	.02	2	"	142		
	.05	5	"	145.5		
	.10	10	"	152		
	.20	20	"	155		
	.30	30	"	159		
	.40	40	"	160.5		
	1:00	60	"	166	86.2	71.5
	.30	90	"	166.2		
	.40	100	"	166.1		
3/11	A.M. 12:00	120	"	166.1	84.5	71.7
	.20	140	"	166.7		
	.40	160	"	167.4		
	1:00	180	"	167.6	83.2	71.5
	.20	200	"	167.8		
	.40	220	"	168		
	2:00	240	"	169	83	71.7
	.20	260	"	170		
	.40	280	"	171		
	3:00	300	"	172	83.7	72
	.20	320	"	173.4		
	.40	340	"	174.7		
	4:00	360	"	175.8	84	72
	.20	380	"	177.8		

DATE	TIME	MIN	AMPS	VOLTS 39F	TEMPS 39F	TEMPS DEW
3/11/09	A.M. 4:40	400	30	180.7		
	5:00	420	"	183	85.7	72
	.20	440	"	185		
	.40	460	"	186		
	6:00	480	"	186	87	72
	.20	500	"	186.1		
	.40	520	"	186.1		
	7:00	540	"	186	89.2	72.5
	.20	560	"	186		
	.40	580	"	185.8		
	8:00	600	"	186.2	88.2	71.5
	.20	620	"	186.7		
	.40	640	"	186.7		
	9:00	660	"	186.7	88.2	72
	.20	680	"	186.6		
	.40	700	"	186.6		
	10:00	720	"	186.2	90	71.5 -12 hrs.
				(361)		
				Discharge #97		
3-11-09	P.M. 1:00	0	0 Amp	1.62		
	.05	5	30	151		
	.07	7	"	143.7		
	1:10	5	"	139.7		
	.15	10	"	137.8		
	.25	20	"	135.7		

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Odle	
	PM						
3-11-09	1.25	30	30	1.328			
	45	40	"	1325			
	11.05	60	"	1297	89.7	76.2	
	25	80	"	1278			
	45	100	"	126			
	12.05	120	"	1245	89	73.2	
	25	140	"	1235			
	45	160	"	1225			
	1.05	180	"	1215	87.2	72.5	
	25	200	"	121			
	45	220	"	1200			
	2.05	240	"	1198	88.7	73.5	
	25	260	"	1187			
	45	280	"	118			
	3.05	300	"	1167	90.2	74.2	
	25	320	"	1156			
	45	340	"	114			
	4.05	360	"	1118	92	75	
	25	380	"	1094			
	35	390	"	1077			
	45	400	"	106			
	5.0	405	"	1047			
	55	410	"	1032			
	5.00	415	"	1018			
	05	420	"	1002			
	06	421	"	100	93.5	75.2	-210.5

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Odle	
				Change # 98			
	PM						
3-11-09	5.10	0	30	1.35	93.5	75.2	
	12	2	"	1.42			
	15	5	"	1.448			
	20	10	"	1.483			
	30	20	"	1.532			
	40	30	"	1.575			
	50	40	"	160			
	6.10	60	"	162	94	75	
	30	80	"	1647			
	50	100	"	165			
	7.10	120	"	1655	91.5	76	
	30	140	"	1665			
	50	160	"	1669			
	8.10	180	"	166	90.5	76	
	30	200	"	1665			
	50	220	"	1667			
	9.10	240	"	1677	90	76	
	30	260	"	1685			
	50	280	"	170			
	10.10	300	"	1715	89	76	
	30	320	"	1722			
	50	340	"	1732			
	11.10	360	"	175	88.7	75.5	
	30	380	"	1761			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP. 398	Odle	
3/11/39	pm 11.50	400	30	179.7			
3/12	am 12.10	420	"	181.2	89.2	75.5	
	.30	440	"	183.9			
	.50	460	"	185			
	1.10	480	"	185.1	91.7	75.5	
	.30	500	"	185.1			
	.50	520	"	185.4			
	2.10	540	"	185.3	92.2	75.7	
	.30	560	"	185.1			
	.50	580	"	185.2			
	3.10	600	"	185	94	75.5	
	.30	620	"	185			
	.50	640	"	185.3			
	4.10	660	"	185	94.5	75	
	.30	680	"	185.5			
	.50	700	"	185.5			
	5.10	720	"	185.7	94	74.2	-12 hrs.
					(91.7)		
				Discharge		98	
3/12	am 5.13	—	1/4	189.4			
	.15	0	30	151			
	.17	2	"	143.5			
	.20	5	"	139.4			
	.25	10	"	132.8			
	.35	20	"	129.4			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP. 398	Odle	
3/12/39	am 5.45	30	30	133.7			
	.55	40	"	132.1			
	6.15	60	"	129.7	92.5	73	
	.35	80	"	127.7			
	.55	100	"	125.8			
	7.15	120	"	124.5	90.5	73	
	.35	140	"	123.2			
	.55	160	"	122.3			
	8.15	180	"	121.7	88.5	72	
	.35	200	"	120.7			
	.55	220	"	120.1			
	9.15	240	"	119.5	88	71.5	
	.35	260	"	118.6			
	.55	280	"	118			
	10.15	300	"	116.6	89	71.7	
	.35	320	"	115.4			
	.55	340	"	113.8			
	11.15	360	"	111.7	90	72	
	.35	380	"	109			
	.55	400	"	105.8			
	pm 12.00	420	"	104.7			
	.05	410	"	103.5			
	.10	415	"	102.1			
	.15	420	"	100.6			
	1.15	420	"	100	93.7	73.5	70.7

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP. 398	TEMP. Idle
			Charge	99		
	PM					
3-11-09	12.35	—	30	136	95.5	74
	37	2	"	1424		
	40	5	"	146		
	45	10	"	1495		
	55	20	"	1542		
	1.05	30	"	157		
	.15	40	"	1612		
	.25	60	"	165		
	.35	80	"	166	89.5	72.7
	2.15	100	"	1638		
	35	120	"	1657		
	55	140	"	1678	87.5	74
	3.15	160	"	168		
	35	180	"	1663		
	55	200	"	1666	85.2	74
	4.15	220	"	1675		
	35	240	"	1682		
	55	260	"	169	84.2	71.2
	5.15	280	"	170		
	35	300	"	171		
	55	320	"	172	84.5	71
	6.15	340	"	1725		
	35	360	"	1755		
	55	380		1755	86	72.5

DATE	TIME	MIN	AMPS	VOLT 394	TEMP. 394	TEMP. Idle
	PM					
3-11-09	7.15	400	30	186		
	35	420	"	1922	83	74.5
	55	440	"	193		
	8.15	460	"	1955		
	35	480	"	1952	86	75
	55	500	"	196		
	9.15	520	"	196		
	35	540	"	196	90	75
	55	560	"	196		
	10.15	580	"	195		
	55	600	"	195	92	76
	55	620	"	1957		
	11.15	640	"	1958		
	35	660	"	1955	91.5	74.5
	55	680	"	1954		
3/13	12.15	700	"	1952		
	35	720	"	1953	94.5	72.5
	55	740	"	195		
	1.15	760	"	1951		
	35	780	"	1953	93.2	71.7
	55	800	"	1955		
	2.15	820	"	1956		
	35	840	"	1955	92.5	70.5
	55	860	"	1955		
	3.15	880	"	1955		

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP. 398	TEMP. Odle	
2/12/07	AM 3.35	900	30	185.2	92.2 (93.2)	70.5	-15 lbs.
				Discharge		69	
2/13	AM 3.35	—	7	157.9			
	.40	"	30	151			
	.42	2	"	143.7			
	.45	5	"	139.4			
	.50	10	"	137.4			
	4.00	20	"	135			
	.10	30	"	133.6			
	.20	40	"	132.2			
	.40	60	"	129.7	92	70.7	
	5.00	80	"	127.8			
	.20	100	"	125.7			
	.40	120	"	124.6	91.7	71.7	
	6.00	140	"	123.3			
	.20	160	"	122.3			
	.40	180	"	121.7	92	72.7	
	7.00	200	"	121			
	.20	220	"	120.5			
	.40	240	"	119.8	93.7	74	
	8.00	260	"	119			
	.20	280	"	118.6			
	.40	300	"	118.2	94.7	74.5	
	9.00	320	"	116			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP. 398	TEMP. Odle	
3-13-07	AM 9.20	340	30	114.6			
	.40	360	"	113	93.2	74.2	
	10.00	380	"	110.6			
	.20	400	"	108			
	.30	410	"	106.5			
	.40	420	"	103.8			
	.45	425	"	102.5	92.2	74	
	.50	430	"	100.2			
	5.00	435	"	100	94.7	74	-21 lb.
				Stood idle 4½ hrs over Sunday			
				Charge	100		
3-15-07	AM 4.00	0	30	147	71.5	70.5	
	.02	2	"	156			
	.05	5	"	160			
	.10	10	"	163			
	.20	20	"	166.5			
	.30	30	"	169			
	.40	40	"	170			
	5.00	60	"	169.5	71	70	
	.20	80	"	169.5			
	.40	100	"	169			
	6.00	120	"	168	90	70	
				165			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP. 398	TEMP. Adb	
7-15-00	AM 6:00	160	20	1.89			
	7.00	150	"	1.89	92.5	7.0	
	20	200	"	1.85			
	40	220	"	1.90			
	800	240	"	1.85	93.5	7.02	
	20	300	"	1.71			
	40	320	"	1.72			
	900	300	"	1.73	93.5	7.17	
	20	320	"	1.77			
	40	340	"	1.76			
	1.00.00	360	"	1.76	94.2	7.1	
	20	380	"	1.775			
	40	400	"	1.797			
	1.1.00	420	"	1.822	86	7.12	
	20	440	"	1.844			
	40	460	"	1.855			
	PM 12.00	480	"	1.857	87	7.12	
	20	500	"	1.86			
	40	520	"	1.862			
	1.00	540	"	1.86	87.5	7.1	
	20	560	"	1.862			
	40	580	"	1.863			
	2.00	600	"	1.862	89.2	7.12	
	20	620	"	1.86			
	40	640	"	1.86			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP. 398	TEMP. Adb	
3-15	PM 3.00	660	30	1857	90.2	7.15	
	20	680	"	1.86			
	40	700	"	1.81			
	4.00	720	"	1.857	92	7.2	
	20	740	"	1.857			
	40	760	"	1.852			
	500	780	"	1.852	93.5	7.3	
	20	800	"	1.85			
	40	820	"	1.845			
	6.00	840	"	1.847	95.2	7.3.5	
	20	860	"	1.845			
	40	880	"	1.844			
	7.00	900	"	1.842	96	7.4.5	— 15 Ins.
					(362)		
3/16				Discharge		100	
	PM 7.03	—	30	1.59			
	.05	0	30	1.58			
	.07	2	"	1.42			
	.10	5	"	1.326			
	.15	10	"	1.276			
	.20	20	"	1.262			
	.30	30	"	1.272			
	.45	40	"	1.273			
	8.00	60	"	1.297	91.5	7.4	
				1.27			

DATE	TIME	MIN.	AMPS	VOLTS 398	TEMP. 398	TEMP. Adds	
	PM						
3/25/09	8.45	120	30	125.8			
	9.05	130	"	124.2	95.7	25	
	.25	140	"	123.6			
	.45	150	"	122.2			
	10.05	160	"	121.7	96	25.7	
	.25	200	"	120.9			
	.45	220	"	120.1			
	11.05	240	"	119.6	97	76	
	.25	260	"	118.5			
	.45	280	"	118			
	AM						
3-16-09	12.05	300	"	116.7	98	76	
	.25	320	"	116			
	.45	340	"	114.7			
	1.05	360	"	113.5	98	76.2	
	.25	380	"	112.5			
	.45	400	"	109			
	.55	410	"	104			
	current off minute						
	.04	420	"	102.2	99	76.2	
	.11	425	"	102			
	.12	426	"	100			-213

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP. 398	TEMP. Adds	
				Change = 10.1			
	AM						
3-16-09	7.30	0	30	1.38	101	77	
	.32	2	"	1.427			
	.35	5	"	1.46			
	.40	10	"	1.497			
	.50	20	"	1.552			
	8.00	30	"	1.58			
	.10	40	"	1.615	96	77.5	
	.30	60	"	1.64			
	.50	80	"	1.652			
	9.10	100	"	1.655	94.5	77	
	.30	120	"	1.658			
	.50	140	"	1.659			
	5.10	160	"	1.66			
	.30	180	"	1.665	90.5	77	
	.50	200	"	1.669			
	6.10	220	"	1.672			
	.30	240	"	1.68	92	76.5	
	.50	260	"	1.69			
	7.10	280	"	1.702			
	.30	300	"	1.712	88	76	
	.50	320	"	1.722			
	8.10	340	"	1.73			
	.30	360	"	1.735	87	75	
	.50	380	"	1.740			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP. 398	TEMP. 966
3-16-49	AM. 9.10	400	30	1774		
	30	410	"	1797	87.7	74
	50	440	"	1857		
	10.10	460	"	1846		
	30	480	"	1855	88	76.7
	50	500	"	186		
	11.10	520	"	1862		
	30	540	"	1865	88.5	71.5
	50	560	"	1865		
	PM. 12.10	580	"	1867		
	30	600	"	1867	89	71
	50	620	"	1865		
	1.10	640	"	186		
	30	660	"	186	91	70.5
	50	680	"	186		
	2.10	700	"	186		
	30	720	"	186	91.5	70.7
	50	740	"	1857		
	3.10	760	"	1857		
	30	780	"	1857	92	70.5
	50	800	"	1857		
	4.10	820	"	1855		
	30	840	"	1857	93	70.5
	50	860	"	1855		
	5.10	880	"	1855		

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP. 398	TEMP. 966	
3-16	AM. 5.30	900	30	1852	92.5 (92.5)	71	-15 lbs.
				Discharge*			101
3-16	PM. 5.33	—	Open	1592			
	35	0	30	1551			
	37	2	"	1425			
	40	5	"	1385			
	45	10	"	137			
	55	20	"	135			
	6.05	30	"	1333			
	15	40	"	131.8			
	35	60	"	129.5	92.2	71	
	55	80	"	127.4			
	7.15	100	"	125.8			
	35	120	"	124.7	91.5	71.5	
	55	140	"	123			
	8.15	160	"	122.1			
	35	180	"	121.4	90	71	
	55	200	"	121			
	9.15	220	"	120.1			
	35	240	"	119.7	90.5	71	
	55	260	"	119			
	10.15	280	"	118.2			
	35	300	"	117.2	91.5	71.5	
	55	320	"	116.5			

DATE	TIME	MIN.	AMP.	VOLTS 398	TEMP 398	TEMP Case	
	PM						
2-16-09	1.15	340	20	1.147			
	.35	360	"	1.132	93.5	76.5	
	.55	380	"	1.11			
	PM						
2-17-09	12.15	400	"	1.095			
	.35	410	"	1.065			
	.35	420	"	1.045	95.2	77.5	
	.45	430	"	1.019			
	.50	435	"	1.00			217.5
				Charge 10			
	AM						
2-17-09	1.05	0	20	1.22	95.5	76.5	
	.07	2	"	1.432			
	.10	5	"	1.472			
	.15	10	"	1.502			
	.25	20	"	1.525			
	.35	30	"	1.535			
	.45	40	"	1.541			
	2.05	60	"	1.545	93.5	73.5	
	.25	80	"	1.552			
	.45	100	"	1.555			
	3.05	120	"	1.559	92.2	73.2	
	.25	140	"	1.559			
	.45	160	"	1.560			
	4.05	180	"	1.559	90.5	74	
	.25	200	"	1.557			

DATE	TIME	MIN.	AMP.	VOLTS 398	TEMP 398	TEMP Case	
	PM						
2-17-09	4.45	220	20	1.577			
	5.05	240	"	1.582	89	74	
	.25	260	"	1.583			
	.45	280	"	1.587			
	6.05	300	"	1.705	89.2	74.5	
	.25	320	"	1.715			
	.45	340	"	1.725			
	7.05	360	"	1.735	89	74.5	
	.25	380	"	1.75			
	.45	400	"	1.72			
	8.05	420	"	1.50	89.5	74.5	— 7 hrs.
					(91)		
				Discharge		10	
	AM						
2-17-09	8.08	—	0	1.575			
	.10	2	20	1.50			
	.12	4	"	1.43			
	.15	5	"	1.275			
	.20	10	"	1.26			
	.30	20	"	1.235			
	.40	30	"	1.217			
	.50	40	"	1.202			
	9.10	60	"	1.178	88	74	
	.30	80	"	1.16			
	.50	100	"	1.145			
	10.10	120	"	1.134	85.5	74.5	

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Idle	
3-17-09	A.M. 10.30	140	30	1224			
	50	160	"	1215			
	11.10	180	"	1206	89.5	74.7	
	30	200	"	1202			
	50	220	"	1192			
	P.M. 12.10	240	"	1185	90.2	74.7	
	30	260	"	117			
	50	280	"	116			
	1.10	300	"	114.4	92.5	75.2	
	30	320	"	112			
	50	340	"	110			
	2.00	350	"	108			
	10	360	"	1057	93	75.2	
	15	365	"	104			
	20	370	"	1025			
	25	375	"	101			
	29	379	"	100	92.2	75.2	-189.5°
				Charge	# 103		
3-17-09	P.M. 2.45	—	30	138	(91)		
	47	2	"	143.9			
	50	5	"	146.6			
	55	10	"	151			
	3.05	20	"	156.3			
	15	30	"	159.8			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Idle	
3/17/09	P.M. 3.25	40	30	162.2			
	45	60	"	165	90	72.9	
	4.05	80	"	165.4			
	25	100	"	165.5			
	45	120	"	165.5	89.2	73.5	
	5.05	140	"	165.6			
	25	160	"	166.1			
	45	180	"	166.2	88	72.7	
	6.05	200	"	167			
	25	220	"	167.6			
	45	240	"	168.1	88	74.5	
	7.05	260	"	169			
	25	280	"	170.7			
	45	300	"	171.9	87	74.5	
	8.05	320	"	173.5			
	25	340	"	175.2			
	45	360	"	177.2	85.5	72.2	
	9.05	380	"	179.9			
	25	400	"	181.9			
	45	420	"	183.2	87	73	-7 lbs.
					(102)		
				Discharge	103		
3/17	P.M. 9.45	—	30	155.5			
	50	0	30	149			
	52	2		144.2			

DATE	TIME	MIN	AMP	VOLTS 398	TEMPS 398	TEMPS 1066
3/17/09	PM 9.55	5	20	137.4		
	10.00	10	"	137.4		
	.10	20	"	137		
	.20	30	"	137.5		
	.30	40	"	137.1		
	.50	60	"	137.7	88	73
	11.10	80	"	137.8		
	.30	100	"	137.2		
	.50	120	"	137.2	93	73
3-18-09	AM 12.10	140	"	137.2		
	.30	160	"	137.3		
	.50	180	"	137.7	96	73.5
	1.10	200	"	137.0		
	.30	220	"	137.3		
	.50	240	"	137	96.5	73
	2.10	260	"	136.7		
	.30	280	"	136.5		
	.50	300	"	136	99.5	73
	3.10	320	"	136.5		
	.30	340	"	136.7		
	.40	360	"	136.7		
	.50	380	"	136.2	91	73.5
	4.00	390	"	136.3		
	.04	394	"	136.0		-197

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	TEMP 1066
				Change 104		
3-18-09	AM 4.20	0	20	138	91.5	73.5
	.22	2	"	138.5		
	.25	5	"	138		
	.30	10	"	138		
	.40	20	"	138.5		
	.50	30	"	138.5		
	5.00	40	"	138.2		
	.20	60	"	138.2	91	73.7
	.40	80	"	138.5		
	6.00	100	"	138		
	.20	120	"	138	89.7	74
	.40	140	"	138.2		
	7.00	160	"	138.5		
	.20	180	"	138.7	88	73.5
	.40	200	"	138		
	8.00	220	"	138.5		
	.20	240	"	138.7	84	73.5
	.40	260	"	138.5		
	9.05	285	"	138.2		
	20	300	"	138.5	84.7	73.2
	40	320	"	138.4		
	10.00	340	"	138.4		
	20	360	"	138.4	85.5	73.5
	40	380	"	138.7		

DATE	TIME	MIN.	AMP.	VOLTS #398	TEMP #398	TEMP cable	
3-19-69	AM. 11.00	4.00	30	1126			
	20	4.20	"	1124	87.7	73.5	
					97.0		
				Discharge		104	"
3-19-69	AM. 11.23	—	0 Amp	154			
	25	0	30	146			
	27	2	"	142.5			
	30	5	"	134			
	35	10	"	136			
	45	22	"	132.7			
	55	30	"	132			
	P.M. 12.05	40	"	130.5			
	20	60	"	128	88.5	73.7	
	45	80	"	126			
	1.05	100	"	124.2			
	25	120	"	123.6	89	74	
	45	140	"	122.6			
	2.05	160	"	121.7			
	25	180	"	121	89	74	
	45	200	"	120			
	3.05	220	"	118.2			
	25	240	"	117.2	89	74.7	
	45	260	"	117			
	4.05	280	"	115.6			
	25	300	"	114.7	90	74.5	

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Cell	
3-18-69	PM 4.45	320	30	1112			
	5.05	340	"	1085			
	45	360	"	1065			
	25	380	"	1045	92	75.5	
	30	365		1026			
	35	370		1.0			
	38½	373½		100	92.2	76	-18.69
4/10	PM			Charge	145		
	6.05	0	30	139.7	94.5	76	
	07	2	"	144.7			
	10	5	"	147			
	15	10	"	150.7			
	25	20	"	156			
	35	30	"	159.4			
	45	40	"	161.7			
	7.05	60	"	164.7	94	77	
	25	80	"	165			
	45	100	"	165			
	8.05	120	"	165	92	77	
	25	140	"	165.2			
	45	160	"	165.5			
	9.05	180	"	165.7	91.5	77.7	
	25	200	"	165.2			

DATE	TIME	MIN	AMP	VOLT. 298	TEMP 298	TEMP 1026
3/18/09	PM 9.45	220	30	166.8		
	10.05	240	"	167.6	91	785
	.25	260	"	168.4		
	.45	280	"	169.5		
	11.05	300	"	170.7	945	787
	.25	320	"	172		
	.45	340	"	172		
3-19-09	AM 12.05	360	"	1.147	92	50
	.25	380	"	178		
	.45	400	"	1509		
	1.05	420	"	1.526	925	79
					923	
			Discharge		= 105	
3-19-09	AM 1.05	—	open	1.582		
	.10	0	30	1.50		
	.15	2	"	1.409		
	.15	5	"	1.365		
	.20	10	"	1.362		
	.30	20	"	1.332		
	.40	30	"	1.217		
	.50	40	"	1.209		
	2.10	60	"	1.30	915	782
	.30	80	"	1.266		
	.50	100	"	1.249		
	3.10	120	"	1.225	915	775

DATE	TIME	MIN.	AMP	VOLTS 298	TEMP 298	TEMP 1026
3-19-09	AM 3.30	140	30	1.221		
	.50	160	"	1.217		
	4.10	180	"	1.212	915	772
	.30	200	"	1.203		
	.50	220	"	1.195		
	5.10	240	"	1.185	912	77
	.30	260	"	1.173		
	.50	280	"	1.162		
	6.10	300	"	1.14	915	752
	.30	320	"	1.12		
	.50	340	"	1.097		
	7.00	350	"	1.075		
	.10	360	"	1.045	92	747
	.20	370	"	1.017		
	.24	374	"	1.00		-197.2
			Change		= 106	
3-19-09	AM 7.25	0	30	1.30	93	742
	.27	2	"	1.402		
	.30	5	"	1.44		
	.35	10	"	1.492		
	.45	20	"	1.549		
	.55	30	"	1.565		
	8.05	40	"	1.615		
	.25	60	"	1.[illegible]	[illegible]	[illegible]

DATE	TIME	MIN	AMP	VOLTS 398	TEMP 398	TEMP elder
2-19	A.M. 8.45	80	20	1654		
	9.05	100	"	1655		
	25	120	"	1655	88.7	73.5
	45	140	"	1658		
	10.05	160	"	166		
	25	180	"	1665	88	73.7
	45	200	"	1668		
	11.05	220	"	1674		
	25	240	"	168	88	74.5
	47	262	"	169		
	P.M. 12.02	281	"	1702		
	25	300	"	1715	88	74.7
	45	320	"	1727		
	1.05	340	"	1745		
	25	360	"	1765	89	75
	45	380	"	179		
	2.09	404	"	1797		
	25	420	"	1835	90	75
					89	
				Discharge		106
3/19	P.M. 2.25	=		per	1572	
	30	0		30	150	
	32	2	"		192	
	35	5	"		1277	
	45	15	"		1351	

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP IDLE
3/19/77	P.M. 2.50	20	30	1237		
	3.00	30	"	132		
	1.0	40	"	1302		
	30	60	"	1278	90.5	75
	50	80	"	126		
	4.0	100	"	1255		
	30	120	"	1232	89	75
	50	140	"	1224		
	5.10	160	"	1217		
	30	180	"	121	89.5	75
	50	200	"	120		
	6.10	220	"	119.6		
	30	240	"	119.5	91.2	75
	50	260	"	119.4		
	7.10	280	"	119.8		
	30	300	"	119	92	74.5
	50	320	"	118.9		
	8.10	340	"	109		
	30	360	"	105	93.5	74.7
	40	370	"	101.7		
	45	375/2	"	100	93.5	74.7 = 1977

DATE	TIME	MIN	AMP	VOLTS 398	TEMPS 398	TEMPS 1026
2/10/09	PM		charge		107	
	9.00	0	20	137	94.5	74.7
	.02	2	"	143.2		
	.05	5	"	146.3		
	.10	10	"	149.6		
	.20	20	"	155		
	.30	30	"	158.7		
	.40	40	"	161.2		
	10.00	60	"	164.6	93.5	75
	.20	80	"	165.4		
	.40	100	"	165.4		
	11.00	120	"	167.7	91	75
	.20	140	"	166.2		
	.40	160	"	165.9		
3-20-09	PM 12.00	180	"	166	90.2	75.2
	.20	200	"	166.9		
	.40	220	"	166.5		
	1.00	240	"	166	89.8	75.2
	.20	260	"	166.2		
	.40	280	"	166.5		
	2.00	300	"	171	89	75
	.20	320	"	166.5		
	.40	340	"	166.5		
	3.00	360	"	166.5	89	75.2
	.20	380	"	166.5		

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	TEMP Solar
3-20-09	PM 3.40	400	30	122		
	4.00	420	"	124	90.2	75.2
					90.7	
				Discharge	107	
3-20-09	AM 4.02	—	0 Amp	137		
	.05	0	30	150		
	.07	2	"	142		
	.10	5	"	138		
	.15	10	"	136.2		
	.25	20	"	134		
	.35	30	"	132.2		
	.45	40	"	130.7		
	5.00	60	"	129.2	90.2	74.7
	.25	80	"	126.3		
	.45	100	"	124.7		
	6.05	120	"	124	90	74.7
	.25	140	"	122.7		
	.45	160	"	121.7		
	7.05	180	"	120.7	89.7	74.7
	.25	200	"	120.2		
	.45	220	"	119.5		
	8.05	240	"	118.5	89.7	74.7
	.25	260	"	117.2		
	.45	280	"	115.5		
	9.05	300	"	114	90.2	73.7

DATE	TIME	MIN	AMPS	VOLTS 39F	TEMP. 39F	Oil	
	A.M.						
3-20	9.25	320	30	111.5			
	45	340	"	108.5			
	10.05	360	"	104	94	74	
	15	370	"	100.5			
	18	378	"	100	94.2	74	-18605
	Stopped 5 1 hrs. over Sunday						
				Charge	#108		
	P.M.						
3-22	1.10	0	30	1.50	74	74	
	12	2	"	1.57			
	15	5	"	1.60			
	20	10	"	1.62			
	30	20	"	1.664			
	40	30	"	1.683			
	50	40	"	1.693			
	2.10	60	"	1.69	79	74.5	
	30	80	"	1.694			
	50	100	"	1.68			
	3.10	120	"	1.68	81.7	75	
	30	140	"	1.682			
	50	160	"	1.684			
	4.10	180	"	1.686	83.5	74.7	
	30	200	"	1.692			

DATE	TIME	MIN	AMPS	VOLTS 39F	TEMP. 39F	Oil	
	P.M.						
3-22	4.50	220	30	170			
	5.10	240	"	1.705	83.5	75	
	30	260	"	1.711			
	50	280	"	1.715			
	6.10	300	"	1.722	84.5	75	
	30	320	"	1.725			
	50	340	"	1.725			
	7.10	360	"	1.72	89	75	
	30	380	"	1.720			
	50	400	"	1.72			
	8.10	420	"	1.742	89	75	
					(83.6)		
				Discharge	#108		
	PM						
3-22-09	9.13	—	off	1.58			
	15	0	30	1.50			
	17	2	"	1.42			
	20	5	"	1.38			
	25	10	"	1.36			
	35	20	"	1.335			
	45	30	"	1.315			
	55	40	"	1.302			
	9.15	60	"	1.28	90	75.7	
	35	80	"	1.26			
	55	100	"	1.243			
	10.15	120	"	1.235	89.5	75.5	

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Vile	
3-22-09	PM 1.05	140	30	122.7			
	.55	150	"	122			
	11.15	180	"	121.2	89	.755	
	.35	220	"	120.2			
	.55	240	"	119.9			
3/23	AM 12.15	240	"	118.9	89.5	.752	
	.35	260	"	117.6			
	.55	280	"	116.2			
	1.15	300	"	114.2	90	.75	
	.35	320	"	112			
	.45	330	"	110.7			
	.55	340	"	109			
	2.05	350	"	106.6			
	1.15	360	"	103.9	92	74.2	
				current off one (1) minute			
	.26	370	30	100.5			
	.27½	371½	"	100	91	74.2	-195.7
3/23	AM 2.45	0	30	.140	92	.74	charge .109
	.47	2	"	144.9			
	.50	5	"	147.4			
	.55	10	"	151			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMPS 398	TEMPS 1015	
3/27/09	AM 3.05	20	30	158.2			
	.15	30	"	160.1			
	.25	40	"	162.8			
	.45	60	"	165.9	90	73.7	
	4.05	80	"	166.2			
	.25	100	"	166.1			
	.45	120	"	166.1	88	73.2	
	5.05	140	"	166.5			
	.25	160	"	166.5			
	.45	180	"	167	86	73	
	6.05	200	"	167.9			
	.25	220	"	168.4			
	.45	240	"	169.5	84.7	73	
	7.05	260	"	170.5			
	.25	280	"	171.1			
	.45	300	"	172.5	84.7	72.7	
	8.05	320	"	174.2			
	2.5	340	"	175.8			
	45	360	"	177.8	85	72	
	9.05	380	"	181			
	25	400	"	183.5			
	45	420	"	187	86	72.5	
					87		

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Idle	
				Discharge #109			
3-23	P.M. 9 48	-	Open	109			
	50	0	30	1495			
	52	2	"	1.42			
	55	5	"	138			
	10.00	10	"	136			
	.10	20	"	1337			
	.20	30	"	132			
	.30	40	"	1305			
	.50	60	"	128	87	735	
	11.10	80	"	126			
	30	100	"	1245			
	50	120	"	1234	88	74	
	P.M. 12.10	140	"	1222			
	30	160	"	1215			
	50	180	"	1203	89	75	
	1.10	200	"	1197			
	30	220	"	1197			
	50	240	"	1186	90	75	
	2.10	260	"	1174			
	30	280	"	1177			
	50	300	"	1167	94.5	77	
	3.10	320	"	1.115			
	30	340	"	1094			
	40	350	"	1065			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Idle	
3-23-09	P.M. 3.50	360	30	1025	94.5	77	
	current off 1 minute						
	.52	365	"	102			
	4.01	370	"	100	95.2	77	-185
				Charge #110			
3-23	P.M. 4.55	-	30	1.52	95.5	77	
	.57	2	"	1.462			
	5.00	5	"	149			
	.05	10	"	1.515			
	.15	20	"	1.575			
	.25	30	"	1.612			
	.35	40	"	163			
	.55	60	"	1.662	93	78.2	
	6.15	80	"	160			
	.35	100	"	1.59			
	.55	120	"	1.59	91.2	79	
	7.15	140	"	1.597			
	.35	160	"	1.662			
	.55	180	"	1.665	90	79	
	8.15	200	"	1.672			
	.35	220	"	168			
	.55	240	"	1.689	92	79	
	9.15	260	"	1.697			

DATE	TIME	MIN.	AMP	VOLTS	TEMP. type	TEMP. place	
	PM						
2-23-09	9.25	280	30	121			
	.35	300	"	1725	89	77.5	
	10.15	320	"	1732			
	.35	340	"	1745			
	.55	360	"	177.	90	77.5	
	11.15	380	"	180.1			
	.35	400	"	182.4			
	.55	420	"	183.6	91.5	77.2	
				(92.5)			
				Discharge	110		
3/23	PM 11.58	0	30	151.1			
3/24	AM 12.00	0	30	149			
	.02	2	"	142.1			
	.05	5	"	138.2			
	.10	10	"	136.3			
	.20	20	"	134			
	.30	30	"	132.3			
	.40	40	"	131			
	1.00	60	"	128.2	92	78	
	.20	80	"	126.3			
	.40	100	"	124.9			
	2.00	120	"	123.7	91.5	78	
	.20	140	"	122.6			
	.40	160	"	122			
	3.00	180	"	121.65	92.7	77.5	

DATE	TIME	MIN.	AMP	VOLTS 75%	TEMPS 75%	TEMPS IDLE	
3/24/09	AM 3.20	200	30	120.2			
	.40	220	"	119.9			
	4.00	240	"	119.	92	72.5	
	.20	260	"	117.7			
	.40	280	"	116.5			
	5.00	300	"	114.5	92.7	77	
	.20	320	"	112.1			
	.40	340	"	111.			
	.50	350	"	110			
	6.00	360	"	105	94	77	
	.05	365	"	104			
	.10	370	"	102.4			
	.15	375	"	100.4			
	117½	377½	"	100	92.5	77	-188.7
				Charge	111		
	AM 6.40	0	30	140	93.7	77	
	.42	2	"	144			
	.45	5	"	147			
	.50	10	"	152.2			
	7.00	20	"	155.6			
	.10	30	"	159.			
	.20	40	"	162.1			
	.40	60	"	165.3	93	77	
	8.00	80	"	166.2			
	.20	100	"	166			
	90	120	"	166	90	78.5	

Date	Time	Min.	Amp	Volts Top	Temp. Top	Temp. Stake
3-24-09	AM. 9.00	140	30	1160		
	.20	160	"	1166		
	.40	180	"	1167	88	76
	10.00	200	"	1167		
	.20	220	"	1168		
	.40	240	"	1165	87	76
	11.00	260	"	1170		
	.20	280	"	1169		
	.40	300	"	1172	86	76
	PM 12.00	320	"	1135		
	.20	340	"	1162		
	.40	360	"	1167	87	76
	1.00	380	"	1165		
	.20	400	"	1163		
	.40	420	"	1164	89	72.2
					89.3	
			Discharge #1			
3-24-09	PM 1.43	—	off	1158		
	.45	0	30	1150		
	.47	2	"	1142		
	.50	5	"	1405		
	.55	10	"	1372		
	2.05	20	"	1345		
	.15	30		1325		
	.25	40		1312		

Date	Time	Min.	Amp	Volts Top	Temp. Top	Temp. Stake
3/24/09	PM 2.45	60	30	1292	89.2	77.5
	3.05	80	"	1263		
	.25	100	"	1245		
	.45	120	"	1237	89	77.4
	4.05	140	"	1222		
	.35	160	"	1217		
	.55	180	"	1211	90	77.7
	5.15	200	"	1203		
	.35	220	"	1195		
	.45	240	"	1186	92	77.4
	6.05	260	"	1175		
	.25	280	"	1162		
	.48	300	"	1142	92	77.4
	7.05	320	"	1132		
	.15	330	"	1112		
	.25	340	"	1097		
	.35	350	"	1079		
	.45	360	"	1057	95.5	77.4
			Current off 1 minute			
	.51	365	"	1024		
	.56	370		1015		
	8.01	375		1017		
	.03	378		1000	95.5	77.4

DATE	TIME	MIN	AMPS	VOLTS 39F	TEMP. 39F	10F	
				Charge	#	112	
3/24/09	P.M. 9.00	–	30	144	90.7	75.2	
	22	2	"	147			
	25	5	"	150			
	30	10	"	153			
	40	20	"	158			
	50	30	"	161.5			
	10.00	40	"	164			
	20	60	"	166	90.2	75.2	
	40	80	"	166.2			
	11.00	100	"	166			
	20	120	"	166	90	75	
	40	140	"	166.1			
3/25	A.M. 12.00	160	"	166.2			
	20	180	"	166.5	89	76	
	40	200	"	167			
	1.00	220	"	167.5			
	20	240	"	168	88.5	76	
	40	260	"	169			
	2.00	280	"	170			
	20	300	"	171.6	89	76	
	40	320	"	172.4			
	3.00	340	"	173.8			
	20	360	"	175.7	89.5	76.5	
	40	380	"	177.8			

DATE	TIME	MIN	AMPS	VOLTS 39F	TEMPS 39F	10F	
3/25/09	A.M. 4.00	400	30	182.1			
	20	420	"	183	90.7 (90.9)	76.2	
				Discharge		112	
3/25	A.M. 4.23	–	open	188.2			
	25	0	30	149			
	27	2	"	142			
	30	5	"	138.1			
	35	10	"	136.2			
	45	20	"	133.8			
	55	30	"	132.1			
	5.05	40	"	130.3			
	25	60	"	128	91.7	76	
	45	80	"	126.2			
	6.05	100	"	124.8			
	25	120	"	123.9	91.2	76	
	45	140	"	123.2			
	7.05	160	"	122			
	25	180	"	121.2	91	76	
	45	200	"	120.4			
	8.05	220	"	119.9			
	25	240	"	119	91.7	75.5	
	45	260	"	117.8			
	9.05	280	"	116.3			
	25	300	"	114.5	90.9	75.5	

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP. 398	TEMP. Idle	
3-25	P.M. 9.45	330	30	1.125			
	1.00	340	"	1.095			
	10	345	"	1.086			
	15	350	"	1.077			
	20	355	"	1.065			
	25	360	"	1.054	94	74	
				Current off 1 minute			
	31	365	"	1.05			
	36	370	"	1.022			
	41	375	"	1.003			
	42	376	"	1.00	95	75	-188
		Stood 18		minutes;		then	continued discharge
	A.M. 11.00	0	30	1.12			
	02	2	"	1.03			
	05	5	"	1.002			
	10	10	"	.97			
	20	20	"	.952			
	30	30	"	.872			
	40	40	"	.819			
	50	50 (52)	"	.71 (58)			-215.2 to 50V,
	55	55.2	"	.79	99	76.2	

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP. 398	TEMP. Idle
				Charge #113		
3/25/09	P.M. 12.15	-	30	1.38	102	76.2
	17	2	"	1.445		
	20	5	"	1.47		
	25	10	"	1.507		
	35	20	"	1.557		
	45	30	"	1.589		
	55	40	"	1.612		
	1.15	60	"	1.646	98.2	76
	35	80	"	1.665		
	56	101	"	1.669		
	2.15	120	"	1.669	87.7	72.5
	35	140	"	1.668		
	55	160	"	1.668		
	3.15	180	"	1.67	86.2	72
	35	200	"	1.675		
	55	220	"	1.677		
	4.15	240	"	1.68	85.7	72.5
	35	260	"	1.684		
	55	280	"	1.69		
	5.15	300	"	1.70	85	72
	35	320	"	1.708		
	55	340	"	1.72		
	6.15	360	"	1.735	93	73
	35	380	"	1.745		

DATE	TIME	MIN.	AMP.	VOLTS	TEMP.	Sp. Gr.
	P.M.					
3-25-09	6.50	400	20	1769		
	7.15	420	11	1777	85	777
					243	
					1.13	
	Discharge					
3-25-09	P.M. 7.18	—	off	1582		
	.20	0	20	1497		
	.22	2	"	141		
	.25	5	"	1367		
	.30	10	"	1342		
	.40	20	"	132		
	.50	30	"	1305		
	8.00	40	"	1287		
	.20	60	"	1265	86	777
	.40	80	"	125		
	9.00	100	"	124		
	.20	120	"	1235	87.5	72
	.40	140	"	122		
	10.00	160	"	1212		
	.20	180	"	120	86.5	72
	.40	200	"	1185		
	11.00	220	"	117.4		
	.20	240	"	117.5	88	72
	.40	260	"	116.1		
3/26	A.M. 12.00	280	"	114.1		
	.20	300	"	111.8	91	72.25

DATE	TIME	MIN.	AMP	VOLTS	TEMP.	Sp. Gr.
	A.M.					
3/26/09	12.40	320	21	108.2		
	.50	330	"	107.7		
	1.00	340	"	112		
	.05	345	"	100		-172
	.05	345	"	97.7		
	.10	350	"	96.6		
	.15	355	"	92		
	.20	360	"	88.5	92.7	.72
	.25	365	"	87.8		
	current off					
	.31	370	30	77		
	.36	375	"	52.1		
	.36/.37	375/p	"	50	83.5	72 -1977
	Stood ½ hours.					
				Charge #114		
	A.M.					
3-26	9.10	0	30	156	74.7	70.7
	.12	2	"	161		
	.15	5	"	1626		
	.20	10	"	1645		
	.30	20	"	1675		
	.40	30	"	1698		
	.50	40	"	1704		
	10.10	60	"	1701	74.7	70.7
	.30	80	"	169		
	.50	100	"	1684		
	11.10	120	"	1664	81.7	.72
	.30	140	"	168		

DATE	TIME	MIN	AMPS	VOLTS	TEMP 398	TEMP 398	Idle	
3-27	1150 PM	160	30	168				
	1210	180	"	1682	835	72.5		
	30	200	"	1685				
	50	220	"	1685				
	1.10	240	"	169	842	73		
	30	260	"	170				
	50	280	"	171				
	2.10	300	"	172	845	73		
	30	320	"	173				
	50	340	"	1745				
	3.10	360	"	1763	85.5	72.7		
	30	380	"	179				
	50	400	"	181				
	4.10	420	"	182	865	72.7		
					814			
				Discharge: 114				
	PM							
3/28	4.13	—	Open	155				
	15	0	30	148				
	17	2	"	1447				
	20	5	"	137				
	25	10	"	1347				
	35	20	"	1325				
	45	30	"	1312				
	55	40	"	130				
	5.15	60	"	127	85	72.5		

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Idle	
3-27	PM 5.55	80	30	1255			
	6.05	100	"	1242			
	6.15	120	"	1237	865	72.5	
	35	140	"	122			
	55	160	"	1213			
	7.15	180	"	1209	89	73	
	35	200	"	120			
	55	220	"	1193			
	8.15	240	"	1192	90	73	
	35	260	"	117			
	55	280	"	1165			
	9.15	300	"	1125	912	73	
	35	320	"	1109			
	55	340	"	1062			
	10.05	350	"	1022			
	09	354	"	100			-177
	15	360	"	96	925	73	
				current off limits			
	24	370	"	89			
	31	375	"	78			
	34	380	"	50	95	73	-190

DATE	TIME	MIN.	AMP	VOLTS 39V	TEMP 39V	TEMP IDLE
				Change		115
	PM					
3-26-09	1050	0	20.	143	95.	74.2
	.52	2	"	149		
	.55	5	"	149		
	1100	10	"	150.5		
	.10	20	"	159		
	.20	30	"	161.7		
	.30	40	"	164		
	.40	60	"	166.1	95.2	73.7
3/27	12.10	60	"	166.2		
	.30	120	"	166		
	.50	120	"	166	92	73.5
	1.10	140	"	166.1		
	.30	160	"	166.2		
	.50	180	"	166.1	89.5	73
	2.10	200	"	167		
	.30	220	"	167.7		
	.50	240	"	168.1	88	72.5
	3.10	260	"	169		
	.30	280	"	169.9		
	.50	300	"	171	87	72.2
	4.10	320	"	172.2		
	.30	340	"	173.7		
	.50	360	"	175.2	87	72
	5.10	380	"	177.8		

DATE	TIME	MIN	AMP	VOLTS 39V	TEMPS 39V	TEMPS IDLE
	AM					
3/27/09	5.30	400	30.	178.3		
	.50	420	"	181.6	85.5	73
					90.5	
				Discharge		115
	AM					
3/27	5.50	—		155		
	.55	0.	30.	148		
	.57	2	"	141.3		
	6.00	5	"	136.2		
	.05	10	"	135		
	.15	20	"	132.5		
	.25	30	"	131.2		
	.35	40	"	129.9		
	.45	60	"	127.5	89	72.5
	7.15	80	"	125.7		
	.35	100	"	124.7		
	.55	120	"	123	87.2	72.2
	8.15	140	"	122.2		
	.35	160	"	121.5		
	.55	180	"	120.6	87.5	72.5
	9.15	200	"	120		
	.35	220	"	119		
	.55	240	"	118	88	72.5
	10.15	260	"	117		
	.35	280	"	115.4		
	.55	300	"	115.4	89	71.5

DATE	TIME	MIN	AMPS	VOLTS 358	TEMP. 358	TEMP. Idle	
	A.M.						
3-27	11.15	320	30	1.106			
	35	340	"	1.065			
	45 52	350 357	"	1.025 1.00			-1985
	55	360	"	98	92	71.7	
				Current off 2 minutes			
	P.M.						
	12.02	365	"	95			
	07	370	"	90			
	17	380	"	71.7			
	21	384	"	50	93.2	71.7	-1922
				Stood over Sunday 48 hours.			
3/29				charge		116	
	P.M. 8.10	0	30	1.60	72	73	
	12	2	"	1.64			
	15	5	"	1.67			
	20	10	"	1.77			
	30	20	"	1.805			
	40	30	"	1.905			
	50	40	"	1.915			
	9.10	60	"	1.91	77	73	
	30	90	"	1.902			
	50	100	"	1.892			
	10.10	120	"	1.890	80	73	

DATE	TIME	MIN	AMPS	VOLTS 358	TEMP. 358	TEMP. Idle	
	P.M.						
3-29-09	10.30	140	30	1.89			
	50	160	"	1.87			
	11.10	180	"	1.89	91.7	73	
	30	200	"	1.895			
	50	220	"	1.70			
	12.10	240	"	1.705	93	73	
	30	260	"	1.712			
	50	280	"	1.722			
	1.10	300	"	1.732	93	73	
	30	320	"	1.742			
	50	340	"	1.76			
	2.10	360	"	1.77	93.2	73	
	30	380	"	1.79			
	50	400	"	1.815			
	3.10	420	"	1.83	95.7	73	
					95.7		
				Discharge # 116			
3-29-09	P.M. 2.13	open	—	1.582			
	15	0	30	1.50			
	17	2	"	1.405			
	20	5	"	1.375			
	25	10	"	1.347			
	35	20	"	1.325			
	45	30	"	1.311			
	55	40	"	1.297			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Idle	
3-27-79	PM 4.15	60	20	1.232	87	77.7	
	.35	80	"	1.255			
	.55	100	"	1.242			
	5.15	120	"	1.23	88.	73.5	
	.35	140	"	1.222			
	.55	160	"	1.212			
	6.15	180	"	1.207	87.7	74.	
	.35	200	"	1.202			
	.55	220	"	1.192			
	7.15	240	"	1.182	92.	74.7	
	.35	260	"	1.172			
	.55	280	"	1.16			
	8.15	300	"	1.14	93.5	76	
	.35	320	"	1.11			
	.55	340	"	1.067			
	9.05	350	"	1.027			
	.10	355	"	1.00			77.5
	.15	360	"	.962	95.2	76.2	
	.25	370	"	.88			
	.35	380	"	.622			
	.39	384	"	.50	96.7	76.2	77.5

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Idle	
	PM			Charge # 117			
8/19/79	9.50	0	30	1.44	100.7	76.2	
	.52	2	"	1.505			
	.55	5	"	1.522			
	10.00	10.	"	1.55			
	.10	20	"	1.587			
	.20	30.	"	1.61			
	.30	40.	"	1.632			
	.50	60	"	1.65	97.7	77	
	11.10	80	"	165.8			
	.30	100	"	165.7			
	.50	120	"	165	96	77.2	
3/20	AM 12.10	140	"	165.4			
	.30	160	"	165.2			
	.50	180	"	165.9	94.2	77.5	
	1.10	200	"	166.2			
	.30	220	"	166.7			
	.50	240	"	167.3	93.	77.5	
	2.10	260	"	167			
	.30	280	"	168.7			
	.50	300	"	170	92.2	78	
	3.10	320	"	171			
	.30	340	"	172.1			
	.50	360	"	173.8	92	77.5	
	4.10	380	"	175.7			

DATE	TIME	MIN	AMPS	VOLTS 298	TEMP 298	TEMP Idle	
3/31/09	AM 4.20	420	30	157.5			
	25	430	"	150.2	91.5	77.5	
					946		
				Discch rate			117
3/30	AM 4.55	0	30	157.4			
	55	10	"	147.7			
	57	2	"	140.3			
	5.00	5	"	137.4			
	05	10	"	135			
	15	20	"	133			
	25	30	"	131.2			
	35	40	"	129.1			
	45	50	"	127.1	93	77.7	
	6.15	80	"	125.6			
	35	100	"	124			
	55	120	"	122.9	91.7	76.5	
	7.15	140	"	122.1			
	35	160	"	121.4			
	55	180	"	120.8	91	75.7	
	8.15	200	"	119.9			
	35	220	"	119			
	55	240	"	118	90.5	75	
	9.15	260	"	116.5			
	35	280	"	115.5			
	55	300	"	115	90.5	75	

DATE	TIME	MIN	AMPS	VOLTS 298	TEMP 298	TEMP Idle	
3-30-09	AM 10.15	320	30	110.5			
	35	340	"	1.062			
	55	360	"	1027			
				current off 1 minute			
	52	356	"	100			-178.
	54	340	"	96	94.5	75	
	11.04	370	"	93.5			
	10	374	"	90.7			
	14	380	"	90	93.5	75	-190.
				Charge =		118.	
3-30-09	AM 11.30	0	30	146	92	75	
	32	2	"	151.5			
	35	5	"	153.5			
	40	10	"	154			
	50	20	"	159.5			
	12.00	30	"	162.5			
	10	40	"	165			
	30	60	"	166.5	94.5	75	
	50	80	"	166.5			
	1.00	100	"	166.5			
	30	120	"	166	95.5	75.5	
	50	140	"	166.5			
	2.00	160	"	166.5			

Date	Time	Min.	Amp.	Volts	Temp 398	Temp diode
2-20-09	PM 7.30	160	30	1.47	89.7	73.7
	.50	200	"	1.472		
	8.10	220	"	1.475		
	.30	240	"	1.482	88.5	74
	.60	260	"	1.49		
	9.10	280	"	1.492		
	.30	300	"	1.472	87.7	74.2
	.50	320	"	1.73		
	5.10	340	"	1.742		
	.30	360	"	1.76	86.7	74.2
	.60	380	"	1.789		
	6.10	400	"	1.807		
	.30	420	"	1.827	87	74
					(92.2)	
			Discharge	11.8		
3/30/09	PM 6.33	—	ohm	1.582		
	6.35	0	30	1.482		
	.37	2	"	1.402		
	.40	5	"	1.375		
	.45	10	"	1.355		
	.55	20	"	1.335		
	7.05	30	"	1.312		
	.15	40	"	1.297		
	.35	60	"	1.272	85.5	73.7
	.55	80	"	1.255		

Date	Time	Min.	Amp	Volts 398	Temp 398	Temp diode
3/30/09	PM 8.15	100	30	1.245		
	.35	120	"	1.235	89	74
	.55	140	"	1.227		
	9.15	160	"	1.22		
	.35	180	"	1.21	91.5	75
	.55	200	"	1.20		
	10.15	220	"	1.19		
	.35	240	"	1.182	91.5	75.5
	.55	260	"	117.3		
	11.15	280	"	11.57		
	.35	300	"	114	92.2	75
	.55	320	"	111.5		
3/31	AM 12.15	340	"	107.9		
	.35	360	"	105		
	.55	360	"	100.4	95	75.2
	.37	362	"	100		181
				current off 1 minute		
	.56	370	30	94.3		
	.56	380	"	88.3		
	1.04	388	"	50	95.2	75 104.2

DATE	TIME	MIN	AMP	VOLTS	TEMPS 39.5	39.5	1066
3/31/99				Discharge 119			
	AM 12:00	0	30	147.6	94	75	
	:22	2	"	150			
	:25	5	"	153			
	:30	10	"	155.7			
	:40	20	"	158.6			
	:50	30	"	161.4			
	1:00	40	"	163.8			
	:20	60	"	165.7	96.5	75	
	:40	80	"	165.7			
	2:00	100	"	165.8			
	:20	120	"	165.8	94	75	
	:40	140	"	165.7			
	3:00	160	"	165.8			
	:20	180	"	166	92	75	
	:40	200	"	166.2			
	4:00	220	"	166.7			
	:20	240	"	167.2	90.7	75	
	:40	260	"	167.9			
	5:00	280	"	169			
	:20	300	"	170	90.5	75	
	:40	320	"	171.2			
	6:00	340	"	172.3			
	:20	360	"	173.5	91	75.5	
	:40	380	"	175.8			

DATE	TIME	MIN	AMP	VOLTS 39.5	TEMPS 39.5	1066
3/31/99	AM 8:00	420	30	174.7		
	:20	420	"	171.2	89.2	74.7
				119		
				Discharge 119		
3/31	AM 8:22	–	0 pm	154		
	:25	0	30	146		
	:27	2	"	140.9		
	:30	5	"	137.2		
	:35	10	"	133.3		
	:45	20	"	133.1		
	:55	30	"	131.3		
	9:05	40	"	130		
	:25	60	"	129.2	88.5	74
	:45	80	"	128.7		
	10:05	100	"	128.2		
	:25	120	"	127.8	86	73.5
	:45	140	"	127.2		
	11:05	160	"	126.6		
	:25	180	"	126.2	86.5	73
	:45	200	"	119.5		
	AM 12:05	220	"	119.5		
	:25	240	"	118	86.5	73
	:45	260	"	116.5		
	1:05	280	"	115		
	:25	300	"	114	86.5	73

DATE	TIME	MIN	AMP	VOLTS 398	TEMP 398	TEMP stable	
3-31-09	1.45	320	30	1.095			
	2.05	340	"	1.055			
	.15	350	"	1.015			
	.19	354	"	1.00			177
	.25	360	"	.952	90.5	74	
				current off 7 minutes			
	.37	370	"	.832			
	.47	380	"	.50			190
				Charge 120			
3/31/09	PM 3.20	0	30	1.472	91.5	747	
	.22	2	"	1.517			
	.25	5	"	1.535			
	.30	10	"	1.557			
	.40	20	"	1.597			
	.50	30	"	1.63			
	4.00	40	"	1.645			
	.20	60	"	1.662	91.2	75.5	
	41	81	"	1.66			
	5.00	100	"	1.655			
	.20	120	"	1.655	90	76	
	.40	140	"	1.657			
	6.00	160	"	1.657			
	.20	180	"	1.66	88.7	76	

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Dell	
3/31/09	PM 6.40	200	30	1.66			
	7.00	220	"	1.67			
	20	240	"	1.675	88.5	76	
	40	260	"	1.682			
	8.00	280	"	1.692			
	.20	300	"	1.70	88.5	76	
	.40	320	"	1.717			
	9.00	340	"	1.732			
	20	360	"	1.752	88.5	76.5	
	.40	380	"	1.772			
	10.00	400	"	1.79			
	20	420	"	1.815	89 (89.5) #	76.5	
				Discharge 120			
4/1/09	PM 10.23	—	open	1.58			
	.25	0	30	1.477			
	.27	2	"	1.402			
	.30	5	"	1.37			
	.35	10	"	1.35			
	.45	20	"	1.33.5			
	.55	30	"	1.312			
	11.05	40	"	1.30			
	.25	60	"	1.27.7	90.5	77.5	
	.45 AM	80	"	1.25.5			
4/1	12.05	100	"	1.24.2			

DATE	TIME	MIN	AMP	VOLTS 395	TEMPS 395	TEMPS IDLE
4/1/99	AM 12.25	120	30	123.2	92	77.5
	.45	140	"	122.4		
	1.05	160	"	121.7		
	1.25	180	"	121	92.5	78
	1.45	200	"	120.2		
	2.05	220	"	119.5		
	2.25	240	"	118.4	94	77.2
	2.45	260	"	117.5		
	3.05	280	"	115.9		
	3.25	300	"	113.9	94	74.7
	3.45	320	"	111		
	4.05	330	"	109.5		
	4.05	340	"	107		
current off one (1) minute						
	4.16	350	30	104.1		
	4.24	355	"	102		
	4.29	355	"	100	94.7	76
4/1	charge					
	AM 4.25	0	30	145	95	76
	.37		"	147.11		
	.45	5	"	154.0		
	.55	10	"	157.0		
	5.20	20	"	159.9		
	5.25	30				

DATE	TIME	MIN	AMP	VOLTS 395	TEMPS 395	TEMPS IDLE
4/1/99	AM 5.15	40	30	162.2		
	.35	60	"	162.5	93	75
	.55	80	"	166		
	6.15	100	"	166		
	.35	120	"	166	93.7	79.5
	.55	140	"	165.9		
	7.15	160	"	166		
	.35	180	"	166.4	97.5	74.5
	.55	200	"	167		
	8.15	220	"	165		
	.35	240	"	169	97.2	73.7
	.55	260	"	170		
	9.15	280	"	170.7		
	.35	300	"	172.5	97.5	74
	.55	320	"	174		
	10.15	340	"	176		
	.35	360	"	178.5	99	74
	.55	380	"	179.5		
	11.15	400	"	182		
	.35	420	"	183	90	74
					(92)	
				Equalizing		
	PM					
4/2/99	11.35	—	0	159.5		
	.40	0	30	152		
	.45			151.5		

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	TEMP Solder	
7-1-09	AM 11.45	5	30	1.365			
	50	10	"	1.365			
	PM 12.00	20	"	1.365			
	10	30	"	1.372			
	20	40	"	1.372			
	40	60	"	1.382	91.5	74	
	1.00	80	"	1.265			
	20	100	"	1.25			
	40	120	"	1.225			
	2.00	140	"	1.227	92	76.5	
	20	160	"	1.217			
	40	180	"	1.21	92.5	77	
	3.00	200	"	1.20			
	20	220	"	1.195			
	40	240	"	1.195	93	77.7	
	4.00	260	"	1.175			
	20	280	"	1.16			
	40	300	"	1.145			
	5.00	320	"	1.115	95.5	77.5	
	20	340	"	1.085			
	30	350	"	1.067			
	Current off 2 minutes						
	42	360	"	1.042	97	77.5	
	47	365	"	1.022			
	52	370	"	1.008			-1.195

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Solder	
		Charge 122					
4/1/09	PM 6.00	0	30	1.422	97.5	78.5	
	02	2	"	1.462			
	05	5	"	1.492			
	10	10	"	1.517			
	20	20	"	1.562			
	30	30	"	1.592			
	40	40	"	1.62			
	7.00	60	"	1.642	97	79	
	20	80	"	1.64			
	40	100	"	1.64			
	8.00	120	"	1.64	96.2	79	
	20	140	"	1.64			
	40	160	"	1.642			
	9.00	180	"	1.645	95.2	79	
	20	200	"	1.65			
	40	220	"	1.66			
	10.00	240	"	1.667	94	79	
	20	260	"	1.675			
	40	280	"	1.685			
	11.00	300	"	1.70	93	81	
	20	320	"	1.717			
	44	344	"	1.73			
4/2	AM 12.00	360	"	1.75	93	81.5	
	20	380	"	1.781			

DATE	TIME	MIN.	AMB	VOLTS	TEMPS		
				39F	39F	106F	
4/2/69	AM 12.40	400	30	150			
	1.00	430	"	112	94 (95)	80.5	
				Discharge			122
4/2	AM 1.03	0	30	158			
	.05	0	30	148			
	.07	2	"	141.1			
	.10	5	"	137.5			
	.15	10	"	136.3			
	.25	20	"	133.9			
	.35	30	"	132.2			
	.45	40	"	130.4			
	2.05	60	"	128.1	94	80	
	.25	80	"	126.3			
	.45	100	"	124.9			
	3.05	120	"	123.6	95.7	80	
	.25	140	"	122.5			
	.45	160	"	121.5			
	4.05	180	"	120.7	96.2	80	
	.25	200	"	120.0			
	.45	220	"	119.8			
	5.05	240	"	118.5	96.5	79.5	
	.25	260	"	117.2			
	.45	280	"	115.9			
	6.05	300	"	114.2	97.7	79.7	

DATE	TIME	MIN.	AMB	VOLTS	TEMPS		
				39F	39F	106F	
4/2/69	AM 6.25	320	30	111			
	.45	340	"	108			
	.55	350	"	105.6			
	7.00	365	"	106.4			
				current off, rise (1)			
	.11	360	30	103.9	97.7	76.5	
	.16	370	"	102			
	.20/7.37		"	100	99	76.2	-187.2
4/2	AM			charge			122
	7.40	0	30	142.5	99	78	
	.42	2	"	142.3			
	.45	5	"	142.4			
	.50	10	"	152.4			
	8.00	20	"	157			
	.10	30	"	160.9			
	.20	40	"	163.2			
	.40	60	"	165.7	94.5	77	
	9.00	80	"	165.7			
	.20	100	"	165.7			
	.40	120	"	165.7	94	76.2	
	10.00	140	"	165.7			
	.20	160	"	165			
	.40	180	"	164	92.5	76	
	11.00	200	"	163.5			
	.20	220	"	163			

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	TEMP 398 Bolle
	AM					
4-2-09	11.40	240	20	1.189	87.	75
	PM					
	12.00	260	"	1.205		
	.20	280	"	1.71		
	.40	300	"	1.75	877	752
	1.00	320	"	1.74		
	.20	340	"	1.75		
	.40	360	"	1.775	88.5	76
	2.00	380	"	1.81		
	.20	400	"	1.83		
	.40	420	"	1.832	895	75
					(90)	
				Discharge = 123		
	PM					
4-2-09	2.42	—	0	1.192		
	.47	0	20	1.195		
	.49	2	"	1.417		
	.50	5	"	1.382		
	.55	10	"	1.357		
	3.05	20	"	1.337		
	.15	30	"	1.322		
	.25	40	"	1.302		
	.45	60	"	1.28	90	74
	4.05	80	"	1.24		
	.25	100	"	1.242		
	.45	120	"	1.222	90	73
	5.05	140	"	1.22		

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP 398 Bolle
	PM					
4-2-09	5.25	160	30	1.212		
	.45	180	"	1.202	91.	74
	6.05	200	"	1.197		
	.25	220	"	1.192		
	.45	240	"	1.185	92.2	75
	7.05	260	"	1.172		
	.25	280	"	1.16		
	.45	300	"	1.142	94.	75.5
	8.05	320	"	1.117		
	.25	340	"	1.087		
	.35	350	"	1.065		
				Current off 1 minute		
	.46	360	"	1.04	96.7	75.5
	.51	365	"	1.022		
	.56	370	"	1.00		-195
				Charge = 124		
	PM					
4-2-09	9.15	0	30	1.417	97.2	75.7
	.17	2	"	1.472		
	.20	5	"	1.49		
	.25	10	"	1.53		
	.35	20	"	1.57		
	.45	30	"	1.605		
	.55	40	"	1.621		

DATE	TIME	MIN	AMP	VOLTS	TEMP 39B	TEMP 39B Idle
	PM			39B		
4/2/09	10.15	60	30	1.65	94	75.2
	.35	80	"	1.645		
	.55	100	"	1.64		
	11.15	120	"	1.65	91	74.7
	.35	140	"	1.655		
	.55	160	"	1.659		
4/3	AM 12.15	180	"	1.61.8	91	75
	.35	200	"	1.66.3		
	.55	220	"	1.67.5		
	1.15	240	"	1.68.1	91	76
	.35	260	"	169.4		
	.55	280	"	170.1		
	2.15	300	"	171.7	90.5	76.5
	.35	320	"	172.7		
	.55	340	"	174.1		
	3.15	360	"	176.1	92	77
	.35	380	"	178.6		
	.55	400	"	181.8		
	4.15	420	"	183	94.2 (92.6)	77.5
				Discharge	1.24	
4/3	AM 4.18	—	off	1.581		
	.20	2	30	1.465		
	.22	2	"	1.416		
	.25	5	"	1.338		

DATE	TIME	MIN	AMP	VOLTS 39B	TEMPS 39B	TEMPS IDLE
4/3/09	AM 4.30	10	30	136.1		
	.40	20	"	133.7		
	.50	30	"	131.9		
	5.00	40	"	130.4		
	.20	60	"	128.1	95	78
	.40	80	"	126.2		
	6.00	100	"	124.8		
	.20	120	"	123.7	94.2	77.7
	.40	140	"	122.5		
	7.00	160	"	121.9		
	.20	180	"	120.9	94	77.7
	.40	200	"	120.1		
	8.00	220	"	1.192		
	.20	240	"	1.182	94.2	77.2
	.40	260	"	1.172		
	9.00	280	"	1.16		
	.20	300	"	1.142	95	77.5
	.40	320	"	1.117		
	10.00	340	"	1.085		
	.20	350	"	1.067		
	.15	355	"	1.055		
				Current off 1 minute		
	.31	360	"	1.045	96.5	76.5
	.34	365	"	1.03		
	.37	370	"	1.005		
	.39	371	"	1.00	96.7	76.5 — 185.5

DATE	TIME	MIN	AMP	VOLTS 39 K	TEMPS 39 K	TEMPS IDLE
4/5/09	Stood thirty eight + half (38½) hours					
				Charge	125	
	AM 1.00	0	30	152	77	76.7
	.02	2	"	157.8		
	.05	5	"	160.6		
	.10	10	"	163.4		
	.20	20	"	166.7		
	.30	30	"	168.3		
	.40	40	"	169		
	2.00	60	"	168.6	82	76.7
	.20	80	"	167.9		
	.40	100	"	167.6		
	3.00	120	"	167.5	79.5	76.5
	.20	140	"	167.7		
	.40	160	"	167.8		
	4.00	180	"	168	80	76.5
	.20	200	"	168.4		
	.40	220	"	169.2		
	5.00	240	"	169.6	77.2	76.2
	.20	260	"	170.2		
	.40	280	"	171.9		
	6.00	300	"	172.2	83.2	76.2
	.20	320	"	173.2		
	.40	340	"	174.9		

DATE	TIME	MIN	AMP	VOLTS 39 K	TEMPS 39 K	TEMPS IDLE
4/5/09	AM 7.00	360	30	176.1	90	76.5
	.20	380	"	179.9		
	.40	400	"	182.2		
	8.00	420	"	183.2	89	74.7
					(94.4)	
				Discharge		175
4/5	8.03	—	4/0	156.8		
	.05	0	30	149		
	.07	2	"	142.4		
	.10	5	"	138.3		
	.15	10	"	136.2		
	.25	20	"	133.9		
	.35	30	"	132.2		
	.45	40	"	131		
	9.05	60	"	129.9	95	75
	.25	80	"	129.2		
	.45	100	"	128.2		
	10.05	120	"	127.8	95	75
	.25	140	"	127.9		
	.45	160	"	127		
	11.05	180	"	126.2	95	75
	.25	200	"	125.8		
	.45	220	"	125		
	12.05	240	"	125	95	75
	.25					
	.45					

DATE	TIME	MIN.	AMP	VOLTS	TEMP 398	TEMP 398	Cable
	PM						
4-5-09	12.45	280	30	1.162			
	1.05	300	"	1.142	93.7	74.5	
	25	320	"	1.122			
	.45	340	"	1.097			
	.55	350	"	1.065			
	Current off 1 minute						
	2.06	360	"	1.04	96.2	75	
	.16	360	"	1.00			184.2
	Stood eleven (11) hours off						
4/6	AM	Charge		"	126		
	1.00	0	30	149.7	79.5	77.5	
	.02	2	"	157.9			
	.05	5	"	158			
	.10	10	"	160.9			
	.20	20	"	165			
	.30	30	"	167			
	.40	40	"	167			
	2.00	60	"	167.4	84	78	
	.20	80	"	167.9			
	.40	100	"	167.5			
	3.00	120	"	167.3	88	77.5	
	.20	140	"	167.4			
	.40	160	"	167.4			
	4.00	180	"	167.6	88	78	

DATE	TIME	MIN	AMP	VOLTS	TEMP 398	TEMP 398	IDLE
4/6/09	4.20	200	30	167.9			
	.40	220	"	167.1			
	5.00	240	"	169	89	78	
	.20	260	"	170.2			
	.40	280	"	171.2			
	6.00	300	"	172.4	89	78	
	.20	320	"	173.9			
	.40	340	"	175			
	7.00	360	"	177	90	78	
	.20	380	"	179.7			
	.40	400	"	182.1			
	8.00	420	"	183	91	77.5	
					Run		
	Discharge			"	126		
4/6	AM						
	8.03	—	30	158.3			
	.05	0	30	149			
	.07	2	"	140.2			
	.10	5	"	138.5			
	.15	10	"	136.4			
	.25	20	"	134			
	.35	30	"	132.2			
	.45	40	"	131			
	9.05	60	"	129	92	78	
	.25	80	"	128.5			
	.45	100	"	128.1			

Date	Time	Min.	Amp	Volts 398	Temp 398	Temp Cable	
4-6-09	PM 10.05	120	20	124	91.5	78	
	.25	140	"	122.2			
	.45	160	"	122			
	11.05	180	"	121.5	93	78	
	.25	200	"	122.5			
	.45	220	"	120			
	PM 12.05	240	"	118.5	96	78.5	
	.25	260	"	117			
	.45	280	"	115			
	1.05	300	"	114	96.7	79	
	.25	320	"	112			
	.45	340	"	108			
	.55	350	"	109			
				current off	1 minute		
	2.06	360	"	102	97	79	
	.13	367	"	100			-1225
	Stood eleven (11) hours 4/6						
4/7	AM 12.00	0	30	charge 150	84	81.7	
	.02	2	"	154.2			
	.05	5	"	157			
	.10	10	"	161.7			

Date	Time	Min	Amps	Volts 398	Temp 398	Temp Cable	
4/7/09	AM 1.20	20	30	164			
	.30	30	"	165.9			
	.40	40	"	167			
	2.00	60	"	167.9	88	82	
	.20	80	"	167.1			
	.40	100	"	166.4			
	3.00	120	"	166.2	90	81.5	
	.20	140	"	165.5			
	.40	160	"	166.7			
	4.00	180	"	167	90.7	81	
	.20	200	"	167.5			
	.40	220	"	168			
	5.00	240	"	168.7	91	80.5	
	.20	260	"	169.4			
	.40	280	"	170			
	6.00	300	"	171.2	91.5	80	
	.20	320	"	172.2			
	.40	340	"	173.4			
	7.00	360	"	174.5			
	.20	380	"	175	93.5	80	
	.40	400	"	176.1			
	8.00	420	"	181.8	94.5	80.2	
					(90.4)		
				Discharge			127
4/7	AM 8.05	—	4m	158			

DATE	TIME	MIN	AMPS	VOLTS	TEMP		
				37.6	39.8	IDLE	
4/7/99	2.00	0	30	146.5			
	.05	2	"	147.9			
	.10	5	"	134.4			
	.15	10	"	134.3			
	.25	20	"	134.2			
	.35	30	"	133.5			
	.45	40	"	133.2			
	3.05	60	"	133.7	96	80.4	
	.35	80	"	133			
	.45	100	"	133.2			
	4.05	120	"	134	95	79.5	
	.35	140	"	133			
	.45	160	"	132			
	5.05	180	"	133	94.5	79	
	.35	200	"	132.5			
	.45	220	"	133.7			
	12.05	240	"	133.2	94.2	78.7	
	.35	260	"	132			
	.45	280	"	133.7			
	1.05	300	"	134.7	95.5	78.2	
	.35	320	"	134.5			
	.45	340	"	134.5			
	.55	350	"	134.7			
				disconnect after 1 minute			
	2.06	360	"	102			
	.10	364	"	100.5	97	78	192.2

DATE	TIME	min.	AMP	VOLTS 39.8	TEMP 39.8	80.4
				Stood eleven (11) hours		
4/8	AM			6 hour charge - 12V		
	1.00	0	30	151	76.2	74.5
	.02	2	"	157		
	.05	5	"	159.9		
	.10	10	"	162.9		
	.20	20	"	166.4		
	.30	30	"	168.4		
	.40	40	"	169.5		
	2.00	60	"	169.7	80	74.2
	.20	80	"	169.7		
	.40	100	"	169.1		
	3.00	120	"	168	82.7	74.2
	.20	140	"	168		
	.40	160	"	168		
	4.00	180	"	168	84	74
	.20	200	"	167.1		
	.40	220	"	166.9		
	5.00	240	"	169.9	84	74
	.20	260	"	171		
	.40	280	"	172.2		
	6.00	300	"	172.6	83.5	72.5
	.20	320	"	175		
	.40	340	"	176.9		

DATE	TIME	MIN	AMP	VOLTS 39K	TEMPS 39K	1BLE	
4/1/09	7.00 AM	260	30	178.5	85.2	73	
	.20	280	"	181.9			
	.40	400	"	183.6			
	8.00	420	"	184	88 (93.4)	73	
				Discharge			12 r
4/8	8.00 AM	—	1.00	1.589			
	.05	0	30	1.497			
	.07	2	"	1.414			
	.10	5	"	1.35			
	.15	10	"	1.343			
	.25	20	"	1.342			
	.35	30	"	1.345			
	.45	40	"	1.347			
	9.00	60	"	1.345	89	73	
	.25	80	"	1.345			
	.45	100	"	1.347			
	10.05	120	"	1.344	89	73	
	.25	140	"	1.33			
	.45	160	"	1.32			
	11.05	180	"	1.315	90	73	
	.25	200	"	1.305			
	.45	220	"	1.20			
	PM 12.05	240	"	1.182	91.5	73.5	
	.25	260	"	1.177			

DATE	TIME	MIN.	AMP	VOLTS 39B	TEMP 39B	1BLE	
4-8-09	PM 12.45	280	.30	1.162			
	1.05	300	"	1.143	93.5	74	
	.25	320	"	1.112			
	.45	340	"	1.065			
	.55	350	"	1.05			
				Current off 1 minute			
	2.01	355	"	1.035			
	.06	360	"	1.017	93.5	74.2	
	.09	363	"	1.00			— 181.5
				Stood eleven (11) hours WJ			
4/7	AM			Charge		± 12 r	
	1.00	0	30	157	78	77	
	.02	2	"	157			
	.05	5	"	157.9			
	.10	10	"	160.8			
	.20	20	"	165.6			
	.30	30	"	167			
	.40	40	"	168.6			
	2.00	60	"	168.6	83.5	77	
	.20	80	"	168.6			
	.40	100	"	167.6			
	3.00	120	"	167.5	85.2	76.5	

DATE	TIME	MIN.	AMPS	VOLTS 39#	TEMPS 39#	10CE
4/9/09	3:30 AM	140	30	167.4		
	.45	150	"	167.5		
	4.00	160	"	167.5	86.7	76.2
	.20	200	"	168		
	.40	220	"	167.4		
	5.00	240	"	165.5	86.5	76
	.20	260	"	171		
	.40	280	"	172		
	6.00	300	"	173	85.5	74
	.20	320	"	174		
	.40	340	"	175.7		
	7.00	360	"	177.2	87	74
	.20	380	"	182		
	.40	400	"	183		
	8.00	420	"	183.7	87 (89.9)	73.7
				Discharge		179
4/9	8.03 AM	—	0	188.7		
	.05	0	30	149		
	.07	2	"	145		
	.10	5	"	139		
	.15	10	"	136.7		
	.25	20	"	133.7		
	.35	30	"	132		
	.45	40	"	130.5		

DATE	TIME	MIN.	AMP	VOLTS 39#	TEMP 39#	10CE
4/9	9.05 AM	60	30	132.5	88.7	74.7
	.25	80	"	132.2		
	.45	100	"	132.7		
	10.05	120	"	133.7	88.5	73
	.25	140	"	133.5		
	.45	160	"	132		
	11.05	180	"	131	88.2	73
	.25	200	"	130.5		
	.45	220	"	129.7		
	12.05 PM	240	"	129.7	90	73
	.25	260	"	129.7		
	.45	280	"	129		
	1.05	300	"	129	91.5	73
	.25	320	"	129		
	.45	340	"	128.2		
	.25	360	"	128.5		
				current off 1 minute		
	2.06	360	"	101.3	91.5	73.5
	off	363½	"	100		181.7

Blood eleven (11) hours off

DATE	TIME	MIN	AMPS	VOLTS 39F	TEMPS 39F	124F	
4/10/09				Charge	=	130	
	AM 1.00	0	30	151	76	74.2	
	.02	2	"	156.4			
	.05	5	"	159			
	.10	10	"	161.9			
	.15	15	"	165.8			
	.30	30	"	167.8			
	.60	60	"	169.9			
	2.00	60	"	170	79.7	73.5	
	.20	80	"	169.1			
	.40	100	"	168.4			
	3.00	120	"	167.9	81.2	73	
	.20	140	"	168			
	.40	160	"	168			
	4.00	180	"	169	82.7	73	
	.20	200	"	169.5			
	.40	220	"	169.8			
	5.00	240	"	170	83.2	73	
	.20	260	"	170.9			
	.40	280	"	172.2			
	6.00	300	"	174	83	72.2	
	.20	320	"	175.4			
	.40	340	"	177			
	7.00	360	"	179.2	82.2	71.5	
	.20	380	"	179.2			

DATE	TIME	MIN	AMPS	VOLTS 39F	TEMPS 39F	124F	
4/10/09	AM 7.40	400	.30	114.2			
	8.00	420	"	155.5	83	70	
					(81.6)		
				Discharge	=	130	
4/10	AM 8.20	—	0	159.8			
	.05	0	30	150			
	.10	2	"	1426			
	.15	5	"	138			
	.15	10	"	1.265			
	.25	20	"	1.327			
	.35	30	"	1.315			
	.45	40	"	1.20			
	9.05	60	"	1.282	83	70	
	.25	80	"	1.255			
	.45	100	"	1.247			
	10.05	120	"	1.232	84.5	70	
	.25	140	"	1.227			
	.45	160	"	1.22			
	11.05	180	"	1.212	86.7	70.2	
	.25	200	"	1.202			
	.45	220	"	1.197			
	PM 12.05	240	"	1.197	89	71	
	.25	260	"	1.177			
	.45	280	"	1.166			
	1.05	300	"	1.145	90.7	72.5	

DATE	TIME	MIN	AMPS	VOLTS	TEMP		
				398	398	Solder	
4/10/09	PM 1.25	320	30	1.12			
	45	340	"	1.087			
	2.00	355	"	1.05			
	Current off 1 minute						
	.04	360	"	1.037	94	73.5	
	.11	365	"	1.017			
	.14½	368½	"	1.00	945	735	184.2
Stood thirty five + half (35½) hours over Sunday							
4/12	AM	Charge		131			
	1.30	0	30	153	71	70.5	
	.32	2	"	158.1			
	.35	5	"	161.7			
	.40	10	"	164.2			
	.50	20	"	167.2			
	2.00	30	"	169			
	.10	40	"	170.2			
	.30	60	"	170	77	71.5	
	.50	80	"	169.7			
	3.10	100	"	168.9			
	.30	120	"	168.3	812	73	
	.50	140	"	167.4			
	4.10	160	"	167.4			

DATE	TIME	MIN	AMPS	VOLTS	TEMPS		
				395	397	120	
4/12/9	AM 4.30	180	30	164.4	83	73	
	.50	200	"	164.9			
	5.10	220	"	169.5			
	.30	240	"	170.	84.5	73.2	
	.50	260	"	171			
	6.10	280	"	172			
	.30	300	"	173	86	73.2	
	.50	320	"	174			
	7.10	340	"	175.7			
	.30	360	"	177	87	73	
	.50	380	"	179.5			
	8.00	400	"	182			
	.30	420	"	182	377	725	
					(84.4)		
	Discharge 131						
4/12	AM 8.33	—	off	158.1			
	35	0	30	149			
	.37	2	"	145			
	.40	5	"	139			
	.45	10	"	134.5			
	.55	20	"	132.5			
	9.05	30	"	132			
	.15	40	"	130.5			
	.35	60	"	128	90	73.5	
	.55	80	"	126			

DATE	TIME	MIN.	AMP.	VOLTS 398	TEMP 398	TEMP idle	
4-12-09	PM 10.15	100	30	1.245			
	.25	120	"	1.237	89	73	
	.35	140	"	1.237			
	1.15	160	"	1.22			
	.25	180	"	1.215	88	73	
	.35	200	"	1.205			
	PM. 12.15	220	"	120			
	.35	240	"	1.192	90.5	73	
	.45	260	"	1.18			
	1.15	280	"	1.163			
	.35	300	"	1.14	93	73.5	
	.55	320	"	1.12			
	2.15	340	"	1.112			
	.25	350	"	1.06			
				current off. 1 minute			
	.30	300	"	1.02	74.5	74	
	.40	360	"	1.00			-1822

DATE	TIME	MIN.	AMP.	VOLTS	TEMPS 39.5	37.5	100.5
7/13/09	4.49 AM	400	30	133.2			
	5.00	410	"	133.7	90.5	74	
					(85.5)		
				"Discharge"	132		
7/13	5.03 AM	7	0/30	150			
	.05	0	30	142			
	.07	2	"	141.7			
	.10	5	"	137.4			
	.15	10	"	133.6			
	.25	20	"	132.7			
	.35	30	"	131.4			
	.45	40	"	129.9			
	6.00	60	"	127.8	92	74.22	
	.25	80	"	126			
	.45	100	"	124.2			
	7.05	120	"	123	92.2	74.7	
	.25	140	"	122			
	.45	160	"	121.4			
	8.05	181	"	119.7	90	73.7	
	.25	200	"	120.5			
	.45	220	"	120			
	9.05	240	"	119.7	89.2	73	
	.25	260	"	119.5			
	.45	280	"	119			
	10.05	300	"	119	89.5	73.2	

DATE	TIME	MIN.	AMP	VOLTS 39.5	TEMP 37.5	100.5
4-13-09	10.25 AM	320	30	111		
	.45	340	"	109.3		
	.55	350	"	109		
				cannot off minute.		
	11.05	360	"	102	89.5	73
	.09 1/2	362 1/2	"	100		-181.7
				Charge = 173		
4-13-09	11.25 AM	0	30	1.432	89.5	73.
	.35	2	"	147		
	.30	5	"	1.45		
	.35	10	"	1.53		
	.45	20	"	1.57		
	.55	30	"	1.62		
	12.05 PM	40	"	1.64		
	.25	60	"	1.643	90	73.7
	.45	80	"	1.647		
	1.05	100	"	1.645		
	.25	120	"	1.645	88.2	73.
	.45	140	"	1.645		
	2.05	160	"	1.647		
	.25	180	"	1.647	87.2	73
	.45	200	"	1.647		

DATE	TIME	MIN.	AMP	VOLTS	TEMP 398	TEMP other	
	PM.						
4-13-09	3.05	220	30	1685			
	.25	240	"	1.693	845	73	
	.45	260	"	1.705			
	4.05	280	"	1.72			
	.25	300	"	174	842	73	
	.45	320	"	1.75			
	5.05	340	"	1.765			
	.25	360	"	1.779	857	72	
	.48	382	"	1.833			
	6.05	400	"	1.837			
	.25	420	"	1.842	89	72.5	
					875		
				Discharge #		133	
	PM						
4/13/09	6.28	—	start	1.585			
	30	0	30	1.492			
	32	2	"	1.417			
	35	5	"	1.38			
	40	10	"	1.36			
	50	20	"	1.332			
	7.00	30	"	1.319			
	10	40	"	1.297			
	30	60	"	1.277	89	73	
	50	80	"	1.265			
	8.10	100	"	1.24			
	30						

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP other	
	PM						
4/13/09	8.50	140	30	1222			
	9.10	160	"	1215			
	30	180	"	1.207	912	735	
	50	200	"	1.200			
	10.10	220	"	1.192			
	.30	240	"	1.185	915	73.5	
	.50	260	"	1.172			
	11.10	280	"	116			
	.30	300	"	113.9	93.7	74	
	.50	320	"	111.9			
	AM						
4/14	12.10	340	"	108.9			
	.20	360	"	106.7			
	.30	380	"	103.5	95.5	74.2	
				current off for (17) min			
	.38	365	"	102.5			
	.41	370	"	100	95	74.2	-185
				charge —		134	
4/14	AM 1.20	0	30	145	93.2	74	
	.27	7	"	145.1			
	.35	5	"	150.4			
	.30	10	"	154.1			
	.45	20	"	158			
	.50	30	"	161.2			

DATE	TIME	MIN	AMP	LINE VOLTS	TEMPS 39F	39F	10LB
4/14/09	2.20 AM	60	30	166	93	78.2	
	.40	80	"	166.1			
	3.00	100	"	166			
	.20	120	"	166	92	74.5	
	.40	140	"	166.1			
	4.00	160	"	166.2			
	.20	180	"	167	90	74.5	
	.40	200	"	167			
	5.00	220	"	167.4			
	.20	240	"	168.4	90	74.5	
	.40	260	"	169			
	6.00	280	"	171.7			
	.20	300	"	172.2	90	75.2	
	.40	320	"	173.7			
	7.00	340	"	174			
	.20	360	"	176.1	89.5	75	
	.40	380	"	179			
	8.00	400	"	182			
	.20	420	"	183.2	91.2	75	
					(94)		
				Discharge			134
4/14	8.22 AM	—	4pm	15.1			
	.25	0	33	149			
	.27	2	"	149.2			
	.30	5	"	134			

DATE	TIME	MIN	AMPS	VOLTS 39F	TEMPS 39F	10LB	
4/4/09	8.35	10	30	130			
	.45	20	"	134			
	.55	30	"	132			
	9.05	40	"	131			
	.25	60	"	132.5	91.5	76	
	.45	80	"	132.5			
	10.05	100	"	133			
	.25	120	"	134	91.5	76	
	.45	140	"	133			
	11.05	160	"	132			
	.25	180	"	131.2	92	76	
	.45	200	"	130.5			
	PM 12.05	220	"	129.5			
	.25	240	"	128	92.5	76.5	
	.45	260	"	127.2			
	1.05	280	"	126			
	.25	300	"	125	93.5	76.5	
	.45	320	"	115			
	2.05	340	"	1082			
	1.5	350	"	105			
				Current off 1 minute			
	.26	360	"	1025			
	.31	365	"	100	96	77	1.82.5

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Jelle
			Charge #		135	
4/14/09	PM 2.45	0	30	1.407	96	77
	.47	2	"	1.457		
	.50	5	"	1.48		
	.55	10	"	1.517		
	3:05	20	"	1.552		
	.15	30	"	1.592		
	.25	40	"	1.622		
	.45	60	"	1.65	95	77
	4.05	80	"	1.652		
	.25	100	"	1.65		
	.45	120	"	1.65	93	77
	5.05	140	"	1.65		
	.25	160	"	1.65		
	.45	180	"	1.655	917	77
	6.05	200	"	1.66		
	.25	220	"	1.665		
	.45	240	"	1.67	91	77
	7.05	260	"	1.682		
	.25	280	"	1.692		
	.45	300	"	1.71	915	78
	8.05	320	"	1.72		
	.25	340	"	1.735		
	.45	360	"	1.757	927	78

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Jelle
4/14/09	PM 9.05	380	30	1.78		
	.25	400	"	1.812		
	.45	420	"	1.825	95 (93.3)	78.5
			Discharge #		135	
4/14/09	PM 9.48	—	ohm	1.57		
	.50	0	30	1.48		
	.52	2	"	1.40		
	.55	5	"	1.375		
	10.00	10	"	136		
	.10	20	"	134		
	.20	30	"	1.327		
	.30	40	"	1.302		
	.50	60	"	1.28	94.7	79.5
	11.10	80	"	126		
	.30	100	"	125		
	.50	120	"	123.4	95	80
4/	AM 12.10	140	"	123		
	.30	160	"	122		
	.52	182	"	121.4	95.5	80
	1.10	200	"	120.3		
	.30	220	"	119.9		
	.50	240	"	119.4	96	80
	2.10	260	"	119		
	.30	280	"	118.7		

DATE	TIME	MIN.	AMPS	VOLTS 39F	TEMPS 39F	12LC
4/15/99	AM 2.00	300	30	114.2	97	80
	3.10	326	"	112		
	.30	340	"	108.2		
	.40	350	"	107.7		
	.50	360	"	102.5	95.2	79.2
	current off one (1) minute					
	3.50	365	30	102		
	4.00	369	"	100	99	79.2
4/15	AM		Charge	"	136	
	9.20	0	30	141	99	79
	.22	2	"	144		
	.25	5	"	147.4		
	.30	10	"	151.9		
	.40	20	"	156.1		
	.50	30	"	159.9		
	5.00	40	"	161.4		
	.20	60	"	164.4	96.5	79
	.40	80	"	165		
	6.00	100	"	165		
	.20	120	"	165.2	93.7	78
	.40	140	"	165.5		
	7.00	160	"	165.6		
	.20	180	"	165.6	92	78
	.40	200	"	166.2		

DATE	TIME	MIN.	AMB	VOLT 39F	TEMPS 39F	12LC
4/15/99	AM 8.00	220	30	147		
	.20	240	"	137	90.5	77.2
	.40	260	"	139		
	9.00	280	"	136.5		
	.20	300	"	136	89.2	77
	.40	320	"	132		
	10.00	340	"	135		
	.20	360	"	133.5	89.7	77
	.40	380	"	136.5		
	11.00	400	"	133		
	.20	420	"	134	90	77
					97.4	
			Discharge		# 136	
	AM					
4-15-99	11.23	-	0 Amp	139		
	25	0	30	149		
	27	2	"	143.5		
	30	5	"	138		
	35	10	"	136		
	40	20	"	133.7		
	55	30	"	132		
	12.00	40	"	130.7		
	25	60	"	128	91	75.5
	55	90	"	126.5		
	1.05	100	"	126.5		
	25	120	"	125	92.5	75

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	TEMP Delle
4-15-09	PM 1.45	140	30	1.225		
	2.05	160	"	1217		
	25	180	"	1207	92.5	76.5
	45	200	"	120		
	3.05	220	"	119		
	25	240	"	118	94.5	77.5
	45	260	"	117		
	4.05	280	"	1.15		
	25	300	"	1132	96.5	77.5
	45	320	"	1109		
	5.05	340	"	1093		
	25	350	"	1087		
				Current off 2 minutes		
	26	360	"	1017	97.5	78
	30	364	"	1.00		1.82
				Charge 1.37		
4/15/09	PM 6.10	0	30	1.425	96.5	79
	12	2	"	1.467		
	15	5	"	1.492		
	20	10	"	1.517		
	30	20	"	1.572		
	40	30	"	1.592		
	50	40	"	1.672		

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Delle
4/15/09	PM 7.10	60	30	1.642	94.7	79
	30	80	"	1.65		
	50	100	"	1.65		
	8.10	120	"	1.65	92	79
	30	140	"	1.652		
	50	160	"	1.655		
	9.10	180	"	1.662	90	77
	30	200	"	1.67		
	50	220	"	1.675		
	10.10	240	"	1.68	88	77.5
	30	260	"	1.672		
	50	280	"	1.70		
	11.10	300	"	1.72	87	77
	30	320	"	1.734		
	50	340	"	1.75		
4/16	AM 12.10	360	"	1.78	87.5	76.7
	30	380	"	1.814		
	50	400	"	1.834		
	1.10	420	"	1.842	87.7	76.5
					90.7	
				Discharge		1.37
4/16	AM 1.13	—	—	1.86		
	15	0	30	1.49		
	17	2	"	1.414		
	20	5	"	1.394		

DATE	TIME	MIN	AMPS	VOLTS	TEMPS 39K	TEMPS 79K	TEMPS 104K	
4/10	AM 1:25	10	30	136.3				
	:35	20	"	133.8				
	:45	30	"	132.4				
	:55	40	"	130.8				
	2:15	60	"	128.1	91	76		
	:35	80	"	126.2				
	:55	100	"	124.7				
	3:15	120	"	123.4	91	75.2		
	:35	140	"	122.4				
	:55	160	"	121.9				
	4:15	180	"	121	91	75		
	:35	200	"	120				
	:55	220	"	119				
	5:15	240	"	118	92	75		
	:35	260	"	117				
	:55	280	"	115				
	6:15	300	"	113.7	93.5	74.7		
	:35	320	"	111				
	:55	340	"	107.7				
	7:05	350	"	105				
	current off one (1) minute							
	:16	360	"	102.3	94.5	74.5		
	:21	365	"	100			-182.5	

DATE	TIME	MIN	AMPS	VOLTS	TEMPS 39K	TEMPS 79K	TEMPS 104K	
4/10/27	AM			charge				138
	7:35	0	30	141	93	74.5		
	:37	2	"	145				
	:40	5	"	147.1				
	:45	10	"	151.7				
	:55	20	"	156				
	8:05	30	"	163				
	:15	40	"	162.1				
	:35	60	"	162	92	74		
	:55	80	"	162.5				
	9:15	100	"	162.5				
	:35	120	"	162.2	91	74		
	:55	140	"	162.5				
	10:15	160	"	166				
	:35	180	"	166.2	89.7	74		
	:55	200	"	166.7				
	11:15	220	"	167.5				
	:35	240	"	167	88.5	74.5		
	:55	260	"	167.7				
	PM 12:15	280	"	171				
	:35	300	"	171.5	89	75		
	:55	320	"	173				
	1:15	340	"	174.5				
	:35	360	"	177.7	90.5	76.5		
	:55	380	"	181				

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	TEMP Side	
4/16/09	PM 2.15	400	30	1.232			
	35	420	"	1.23	922	762	
					924		
				Discharge		= 138	
4-16-09	PM 2.25	—	obey	1.58			
	40	0	30	1.49			
	45	2	"	1.42			
	45	5	"	1.382			
	50	10	"	1.36			
	3.00	20	"	1.34			
	10	30	"	1.32			
	20	40	"	1.309			
	40	60	"	1.222	92	765	
	4.00	80	"	1.26			
	20	100	"	1.245			
	40	120	"	1.237	91	75	
	5.00	140	"	1.222			
	20	160	"	1.212			
	40	180	"	1.207	907	74.5	
	6.00	200	"	1.205			
	20	220	"	1.195			
	40	240	"	1.185	912	74	
	7.00	260	"	1.167			
	20	280	"	1.16			
	40	300	"	1.14	922	73.5	

DATE	TIME	MIN.	AMPS	VOLTS 398	TEMP 398	TEMP Side	
4/16/09	PM 8.00	320	.30	1.117			
	.20	340	"	1.09			
	.30	350	"	1.067			
	.40	360	"	1.037	932	73.5	
				Current off 1 minute			
	.51	370	"	1.007			
	.53	372	"	1.00			-186
				Charge #139			
4/16/09	PM 9.05	0	30	1.41	93	735	
	.07	2	"	1.462			
	.10	5	"	1.50			
	.15	10	"	1.522			
	.25	20	"	1.57			
	.35	30	"	1.61			
	.45	40	"	1.637			
	10.05	60	"	1.647	917	73.5	
	.25	80	"	1.66			
	.45	100	"	1.667			
	11.05	120	"	1.67	90.5	73.5	
	.25	140	"	1.67			
	.45	160	"	1.67			
4/17	AM 12.05	180	"	1.67	89	72.5	
	.25	200	"	1.672			
	.45	220	"	1.683			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP. 398	TEMP. Idle
4/17/97	1.05	240	30	169.8	90	78
	.25	260	"	170.1		
	.45	280	"	171.7		
	2.05	300	"	172.2	90.5	74.5
	.25	320	"	173.7		
	.45	340	"	175		
	3.05	360	"	176	91	75
	.25	380	"	179.8		
	.45	400	"	183.7		
	4.05	420	"	185	92	75
					90.4	
				Discharge	139	
4/17	Am 4.04	—	0	157		
	.10	0	30	147		
	.12	2	"	140		
	.15	5	"	137		
	.20	10	"	134.8		
	.30	20	"	132		
	.40	30	"	130.8		
	.50	40	"	129.6		
	5.10	60	"	126.3	92	74
	.30	80	"	125.1		
	.50	100	"	123		
	6.10	120	"	122	92.2	74
	.30	140	"	121.5		

DATE	TIME	MIN	AMP	VOLTS	TEMPS 98F	TEMPS 98F	TEMPS IDLE
4/17/97	Am 6.50	160	30	120.2			
	7.00	170	"	119.6	90	73	
	.30	200	"	119.1			
	.50	220	"	118.1			
	8.10	240	"	117.2	88	72	
	.30	260	"	1.157			
	.50	280	"	1.14			
	9.10	300	"	1.122	90.2	70.5	
	.30	320	"	1.09			
	.50	340	"	1.06			
	10.00	350	"	1.04			
	.10	360	"	1.002			
	.11	361	"	1.00	92.5	71	-190.5
	.20	370	"	.962			
	.31	381	"	.905			
	.40	390	"	.860			
	.50	400	"	.782			
	11.00	410	"	.65			
	00½	416½	"	.50	96.7	71	-209.2

Stood chart never (37) hours off
over Sunday

DATE	TIME	MIN	AMPS	VOLTS 39K	TO MPH 39K	104B	
4/3/99			Charge		140		
	AM 12.05	0	30		on	charge	
	.35	30	"		86.7	83.2	
	2.35	150	"		90	80.5	
	4.35	270	"		90	78	
	6.35	390	"		91.2	77.2	
	8.35	510	"		92	75	
	10.35	630	"		91	74.2	
	PM 12.35	750	"		95.5	75.2	
	2.35	870	"		99	81	
	3.05	900	"	1.94			
					32		
			Discharge		140		
4-19-99	PM 3.02	-	off	159			
	.10	0	30	1.565			
	.12	2	"	1.435			
	.15	5	"	1.367			
	20	10	"	137			
	.30	20	"	1.347			
	.40	30	"	133			
	.50	40	"	1.35			
	4.10	60	"	1.367	98.5	81.5	
	.30	80	"	1.347			
	5.00	100	"	135			
	5.00	100	"	1.337	84.5	81.5	

DATE	TIME	MIN.	AMP.	VOLTS 39B	TEMP 39B	104B	
4-19-99	PM 5.30	140	30	1.223			
	.50	160	"	1.217			
	6.10	180	"	1.21	97.7	81.5	
	.30	200	"	1.205			
	.50	220	"	1.197			
	7.10	240	"	1.19	98	81.7	
	.30	260	"	1.18			
	.50	280	"	1.17			
	8.10	300	"	1.162	97.7	81	
	.30	320	"	1.157			
	.50	340	"	1.147			
	9.10	360	"	1.132	96.7	79	
	.30	380	"	1.1			
	.50	400	"	1.077			
	10.10	420	"	1.04	98.7	78	
	.30	430	"	1.015			
	.34	434	"	1.00			-217
	.30	440	"	.972			
	.40	450	"	.932			
	.50	460	"	.867			
	11.00	470	"	.722			
	.10	480	"	.50	104	79	-240

DATE	TIME	MIN	AMPS	VOLTS 398	TEMPS 398	398	126	
4/19/09			Charge		141			
	P.M. 11.15	0	.30		on charge			
	.45	30	"		105	80		
4/20	A.M. 1.45	150	"		98	79.5		
	3.45	270	"		98.2	75.5		
	5.45	390	"		91.5	76.7		
	7.45	510	"		92.5	75		
	9.45	630	"		95	74.5		
	11.45	750	"		97	75		
	P.M. 1.45	870	"		96.5	74.7		
	2.15	900	"	186	(94.2)			-15 hrs. @ 30
			Discharge		#141			
4-20-09	P.M. 7.18	—	0	0	150			
	.20	0	30		150			
	.22	2	"		141			
	.25	5	"		132			
	.30	10	"		126			
	.40	20	"		125			
	.50	30	"		133.3			
	8.00	40	"		132			
	.20	60	"		129.5	94.7	74.5	
	.40	80	"		127			
	9.00	100	"		124.7			
	.20	120	"		122	93	74.4	

DATE	TIME	MIN	AMP	VOLTS 398	TEMPS 398	126	
4-20-09	P.M. 9.00	140	30	122			
	5.00	160	"	121			
	.20	180	"	120.5	91.5	74	
	.40	200	"	120			
	6.00	220	"	119.2			
	.20	240	"	118.5	91.5	74	
	.40	260	"	117.7			
	7.00	280	"	117			
	.20	300	"	116.2	91.5	74	
	.40	320	"	115.2			
	8.00	340	"	114			
	.20	360	"	112.2	92.7	73.7	
	.40	380	"	110.5			
	9.00	400	"	108			
	.20	420	"	104.2			
	.40	440	"	101.2			
	10.00	460	"	100 89			-222
	.10	470	"	80			
	.20	480	"	66.2	101.5	75	
	.25	485	"	50			-2425

Stood six + half (6½) hours
correct in accord with
Endurance Test 4/9

DATE	TIME	MIN	AMPS	VOLTS 39V	TEMPS 39V	TEMPS 10LE
4/21/09			Charge		142	
	AM 4.55	0	30		96.2	75
	5.55	1	"		91	74.5
	6.55	2	"		93	74.5
	7.55	3	"		93	73.7
	8.55	4	"		94	72.2
	9.55	5	"		94.5	73
	10.55	6	"		94.5	73
	11.55	7	"	134	95.5	72.5
			Discharge		# 142	
4-21-09	PM 12.00	0	40	143		
	02	2	"	136		
	05	5	"	133		
	10	10	"	131		
	20	20	"	1.25		
	30	30	"	127		
	40	40	"	1.32		
	1.00	60	"	122	99	73.5
	20	80	"	1.25		
	40	100	"	119		
	2.00	120	"	118		
	30	140	"	1.122		
	40	160	"	1.162		
	3.00	180	"	1.45	104.5	72.5

DATE	TIME	MIN.	AMPS	VOLTS 39V	TEMP 39V	TEMP 10LE	
4/21/09	PM 3.20	200	40	1.13			
	40	220	"	1.102			
	50	230	"	1.077			
	4.00	240	"	1.06	104	72.5	
	10	250	"	101			
	12	252	"	100			-168
	20	260	"	1.05			
	30	270	"	.96			
	36	276	"	.50	106.7	72.5	-184.5
			Charge		# 143		
4-21-09	PM 4.55	0	30		109.5	72.5	
	5.55	1	"		106.7	72.5	
	6.55	2	"		103.5	72.5	
	7.55	3	"		1.012	72.7	
	8.55	4	"		99	73	
	9.55	5	"		98.5	73.5	
	10.55	6	"		99.7	74	
	11.55	7	"	135.7	100.5	75	
			Discharge		# 143		
4/22	AM 12.00	0	40	1.417			
	02	2	"	1357			
	05	5	"	133.7			

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	TEMP Idle	
4/22/09	AM 12.10	10	40	131.7			
	.20	20	"	129.5			
	.30	30	"	127			
	.40	40	"	126			
	1.00	60	"	123.5	104.7	75	
	.20	80	"	121.7			
	.40	100	"	120			
	2.00	120	"	119.5	107	75.7	
	.20	140	"	118			
	.40	160	"	117			
	3.00	180	"	115.7	109	76	
	.20	200	"	114			
	.40	220	"	111.7			
	.50	230	"	109.7			
	4.00	240	"	107.7	112.5	76	
	.13	250	"	106			
	.20	260	"	100			-173.3
	.30	270	"	95			
	.40	280	"	82.5			
	.45	285	"	70			
	.49	289	"	50	113	76	-192.17
4/23	AM		Discharge			144	
	4.55	0	20		117.5	75.5	
	5.55	1	"		112	75	
	6.55	2	"		106	74.5	
	7.55	3	"		103	74	
	8.55	4	"		99.5	73	

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Idle	
4/22/09	AM 9.55	5			98.2	73.	
	10.55	6			96.2	72.7	
	11.55	7		1.78	96	72.5	
			Discharge			144	
4/22	PM 12.00	0	40	1.432			
	.02	2	"	1.372			
	.05	5	"	1.32			
	.10	10	"	1.317			
	.20	20	"	1.292			
	.30	30	"	1.275			
	.40	40	"	1.257			
	1.00	60	"	1.23	98.5	72.7	
	.30	90	"	1.207			
	.40	100	"	1.197			
	2.00	120	"	1.18	100.5	73	
	.20	140	"	1.17			
	.40	160	"	1.16			
	3.00	180	"	1.14	102.5	73	
	.20	200	"	1.127			
	.40	220	"	1.095			
	4.00	240	"	1.055	106.5	73	
	.10	250	"	100			
	.20	260	"	.96			
	.30	270	"	.94			
	.40	280	"	.87			
	.45	285	"	.80	109	73	-190.4

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	TEMP CASE	
				Charge 145			
4-22-09	PM 4.55	0	70		112	73	
	5.55	1	"		108.5	74.5	
	6.55	2	"		105	75	
	7.55	3	"		104.2	75.5	
	8.55	4	"		103	76	
	9.55	5	"		101.7	75.7	
	10.55	6	"		101.5	75	
	11.55	7	"	176.2	101.5	75	
				Discharge 145			
4/23	AM 12.00	0	40	141			
	.02	2	"	136.1			
	.05	5	"	132.7			
	.10	10	"	132			
	.20	20	"	129.7			
	.30	30	"	127.7			
	.40	40	"	126			
	1.00	60	"	122	104.5	74	
	.20	80	"	121.5			
	.40	100	"	120			
	2.00	120	"	119	105.5	73.7	
	.20	140	"	117.7			
	.40	160	"	116.5			
	3.00	180	"	116	103.7	73	

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP CASE	
4/23/09	AM 3.20	200	40	113			
	.40	220	"	110			
	.50	230	"	108.5			
	4.00	240	"	110	112	76	
	.10	250	"	109			
	.20	260	"	100			-1733
	.30	270	"	94			
	.40	280	"	822			
	.50	290	"	537			
	5.1	291	"	50	116	76	-194
4/23				Charge 146			
	AM 4.55	0	30	114	76.2		
	5.55	1	"		112.7	76	
	6.55	2	"		109.2	76	
	7.55	3	"		106.5	75.5	
	8.55	4	"		104.5	75	
	9.55	5	"		102	74.2	
	10.55	6	"		101	74	
	11.55	7	"	176	101.5	73.5	
				Discharge 146			
4-22-09	PM 12.00	0	40	144			
	.02	2	"				
	.05	5	"	135			
	.10	10	"	132			
	.20	20	"	129.5			
	.30	30	"	127.5			

DATE	Time	Min.	Amp	Volts 398	Temp 398	Temp elda	
4-23-09	PM 1:40	40	40	1.157			
	1:00	60	"	1.32			
	20	80	"	1.212	102.5	73.5	
	40	100	"	1.195			
	2:00	120	"	1.182	100	74	
	20	140	"	1.175			
	40	160	"	1.15			
	3:00	180	"	1.142	101.2	74	
	20	200	"	1.122			
	40	220	"	1.09			
	4:00	240	"	1.045	100	73.2	
	10	250	"	1.022			
	15/25	255	"	1.00			-1903
	30	270	"	.96			
	50	290	"	.835			
	40	280	"	.717			
	46	286	"	.150	114.	75	-1907
			Charge	# 147			
4/23/09	4:55	0	30		1.15	75	
	5:55	1	"		1.125	75	
	6:55	2	"		1.075	74.5	
	7:55	3	"		1.045	74.5	
	8:55	4	"		1.02	74.5	

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP elda	
4/23/09	PM 9:55	5	30		101.5	74.5	
	10:55	6	"		101	74.2	
	11:55	7	"	1.165	102.5	74.5	
				Discharge			# 147
4/24	AM 12:00	0	40	142			
	.02	2	"	136			
	.05	5	"	133.7			
	.10	10	"	132			
	.20	20	"	129.5			
	.30	30	"	127.5			
	.40	40	"	126			
	1.00	60	"	123	104.5	74.5	
	.20	80	"	121			
	.40	100	"	120			
	2.00	120	"	119	106	74.7	
	.20	140	"	117.7			
	.40	160	"	116			
	3.00	180	"	114.5	108.2	75	
	.20	200	"	112			
	.40	220	"	109			
	.50	230	"	107			
	4.00	240	"	104.5	.111.7	74.7	
	.10	250	"	101.7			
	.17/	257/	"	100			-1693
	.20	260	"	97			
	.30	270	"	88.5			
	.40	280	"	76.2			
	.47/	287/	"	50	114	74.7	-1923

DATE	TIME	MIN	AMP	VOLTS	TEMPS 395	TEMPS IDLE
4/24/09				Charge		74.5
	AM 4.55	0	30		114.7	74.5
	5.55	1	"		112	74.5
	6.55	2	"		101.2	74
	7.55	3	"		101.2	73
	8.55	4	"		101.2	73.5
	9.55	5	"		99	72.2
	10.55	6	"		99	72
	11.55	7	"	126	98.7	71.5
				Discharge		148
4-24-09	PM 12.00	0	40	134.5		
	.02	2	"	134.2		
	.05	5	"	133.7		
	.10	10	"	132		
	.20	20	"	130.5		
	.30	30	"	129		
	.40	40	"	128.5		
	1.00	60	"	127.7	102	72
	.20	80	"	127		
	.40	100	"	119		
	2.00	120	"	118	103	72.2
	.20	140	"	116.5		
	.40	160	"	115		
	3.00	180	"	113	109.7	72.5

DATE	TIME	MIN.	AMP.	VOLTS	TEMP 398	TEMP 398 idle	
4-24-09	PM 3.20	200	40	110.7			
	.40	220	"	107.2			
	.50	230	"	105	110	72.5	
	4.00	240	"	102			
	.02	242	"	100			-116.3
	.10	250	"	99.2			
	.20	260	"	97.2			
	.30	270	"	95.2			
	.40	280	"	95	113	72.5	
	.42	282	"	90			198

Stood thirty six + half (36 1/2) hours over Sunday Mg.

4/25				Charge		149
	AM 4.55	0	30		71	70
	5.55	1	"		77.5	70.5
	6.55	2	"		81.5	71
	7.55	3	"		84	70.2
	8.55	4	"		86	71
	9.55	5	"		90.5	72
	10.55	6	"		91.5	73
	11.55	7	"	119	93	74

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	TEMP dole	
				Discharge 149			
4-26-09	PM 12:00	0	40	146			
	02	2	"	136			
	.05	5	"	134			
	.10	10	"	132			
	.20	20	"	1.27			
	.30	30	"	1.27			
	.40	40	"	132			
	1.00	60	"	123	99	74.7	
	.20	80	"	121			
	.40	100	"	120			
	2.00	120	"	1.25	103	75	
	.20	140	"	1.17			
	.40	160	"	1.16			
	3.00	180	"	1.15	105.5	76	
	.20	200	"	1.05			
	.40	220	"	1.095			
	4.00	240	"	1.04	110	76.5	
	.10	250	"	1.00			-1067
	.20	260	"	.93			
	.30	270	"	.91			
	.37	277	"	.90	112	76.5	-1947

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	TEMP dole
				Charge #60		
2-26-09	PM 6.55	0	30	115	74.5	
	55	1	"	110	73.7	
	6.55	2	"	107.5	74.5	
	7.55	3	"	105	75.5	
	8.55	4	"	104	76	
	9.55	5	"	103	76.2	
	10.55	6	"	101.2	76.2	
	11.55	7	"	1.02	100.5	75.5
				Discharge #50		
11/27	AM 12.00	0	40	142		
	.02	2	"	136.2		
	.05	5	"	134		
	.10	10	"	132.2		
	.20	20	"	130		
	.30	30	"	128		
	.40	40	"	126		
	1.00	60	"	122	103	75
	.20	80	"	121		
	.40	100	"	120		
	2.00	120	"	118.2	103.2	73.5
	.20	140	"	117		
	.40	160	"	115.7		
	3.00	180	"	115	104.5	72.5

DATE	TIME	MIN	AMPS	VOLTS 39F	TEMPS 39F	IDLE	
4/27/09	AM 3:20	220	40	111			
	40	230	"	107			
	50	230	"	105			
	4:00	240	"	102	105	72.5	-1027
	10	240	"	100			
	15	250	"	97.5			
	20	260	"	91.7			
	30	270	"	79			
	40	270	"	50	100.2	72.5	-1027
4/27	AM	Charge			1.51		
	4:55	0	30		111.5	72.5	
	5:55	1	"		109.5	73.2	
	6:55	2	"		105	74	
	7:55	3	"		102	73.2	
	8:55	4	"		99	72	
	9:55	5	"		96.5	73.5	
	10:55	6	"		97.7	73	
	11:55	7	"	108	97.5	72.5	
		Discharge			1.51		
4-27-09	PM 12:00	0	40	142			
	02	2	"	136.5			
	05	5	"	132			
	10	10	"	132			
	20	20	"	129			
	30	30					

DATE	TIME	MIN.	AMP	VOLTS 39F	TEMP 39F	Idle	
4-27-09	PM 12:40	40	40	135			
	50	50	"	123	101	73.2	
	1:20	80	"	121			
	40	100	"	119.5			
	2:00	120	"	118	105	72.5	
	20	140	"	114			
	40	160	"	115			
	3:00	180	"	114	104	73.2	
	20	200	"	112			
	40	220	"	107.5			
	4:00	240	"	102.5	106	73	
	07/2	247½	"	100			-1165
	10	250	"	98			
	20	260	"	92			
	30	270	"	83			
	40	280	"	61			
	45	284	"	50	109	72.2	-1903
		Charge			1.52		
4/27/09	PM 4:55	0	30		111.5	72.5	
	5:55	1	"		107.7	72.5	
	6:55	2	"		103.5	72.5	
	7:55	3	"		101.2	72.5	
	8:55	4	"		99.5	72.7	
	9:55	5	"		97	73	
	10:55	6	"		97.5	73.5	

DATE	TIME	MIN	AMPS	VOLTS 39#	TEMP 39#	TEMP Solar	
4/27/09	PM 11.55	7	30	178	99	74	
			Discharge				152
4/28	AM 12.00	0	40	142			
	.02	2	"	137			
	.05	5	"	134.2			
	.10	10	"	132.5			
	.20	20	"	130.2			
	.30	30	"	127			
	.40	40	"	125			
	1.00	60	"	123.7	102	74.2	
	.20	80	"	121.7			
	.40	100	"	120.5			
	2.00	120	"	118.7	106	74.2	
	.20	140	"	117.7			
	.40	160	"	116.5			
	3.00	180	"	114.2	107.7	74.5	
	.20	200	"	112.2			
	.40	220	"	109.5			
	.50	230	"	107.5			
	4.00	240	"	105	111	75	
	.10	250	"	102			
	.13	253	"	100			-169
	.20	260	"	97.5			
	.33	273	"	91			
	.43	283	"	87			
	.55	295	"	68.2			
	.58	298	"	58	1132	75	193

DATE	TIME	MIN	AMP	VOLTS 39#	TEMPS 39#	TEMPS IDLE
4/28/09	AM		Charge			153
	4.55	0	30		117	75
	5.55	1	"		1127	74.5
	6.55	2	"		108	74.5
	7.55	3	"		115	74.2
	8.55	4	"		102	74
	9.55	5	"		1005	74
	10.55	6	"		101	74.2
	11.55	7	"	134	1015	74
			Discharge			153
4-28-09	PM 12.00	0	40	143		
	.02	2	"	1367		
	.05	5	"	134		
	.10	10	"	1325		
	.20	20	"	130		
	.30	30	"	1277		
	.40	40	"	126		
	1.00	60	"	123	1049	74.2
	.20	80	"	121		
	.40	100	"	1195		
	2.00	120	"	118	106	74.5
	.20	140	"	117		
	.40	160	"	1152		
	3.00	180	"	1137	110	75.2

DATE	TIME	MIN.	AMP	VOLTS 39R	TEMP 39R	TEMP 10LS	AMPS
4-28-09	PM 3.20	200	40	111			
	.40	220	"	109.2			
	4.00	240	"	102	112	75.2	
	.20	260	"	100			-164
	.10	250	"	98			
	.20	260	"	95			
	.40	280	"	62	115	75.2	-189.7
	.43	283	"	60			
				Change	154		
4-28-09	PM 4.55	0	30		118.5	75	
	5.55	1	"		113.5	75	
	6.55	2	"		109.7	75	
	7.55	3	"		106.2	75	
	8.55	4	"		104	74.7	
	9.55	5	"		102.5	74.5	
	10.55	6	"		102.7	74.5	
	11.55	7	"	175	102.5	75	
				Discharge	154		
4/29	AM 12.00	0	40	141			
	.02	2	"	137.2			
	.05	5	"	137.7			
	.10	10	"	137.2			
	.20	20	"	137			

DATE	TIME	MIN	AMPS	VOLTS 39R	TEMPS 39R	TEMPS 10LS	
4/29/09	AM 12.30	30	40	128			
	.40	40	"	126			
	1.00	60	"	123.7	106	74.7	
	.20	80	"	121			
	.45	105	"	120			
	2.00	120	"	118	107.2	74.2	
	.20	140	"	117			
	.40	160	"	116			
	3.00	180	"	114	109	74	
	.20	200	"	110.5			
	.40	220	"	112			
	.50	230	"	109.5			
	4.00	240	"	112	112	73.7	
	.05	245	"	110			-164
	.10	250	"	98			
	.20	260	"	97			
	.30	270	"	83			
	.35	275	"	78			
	.40	280	"	65			
	4.43	283	"	50	114	73.5	189
4/29				Change	155		
	AM 4.55	0	30		115.5	73.5	
	5.55	1	"		111	72	
	6.55	2	"		106	71.5	
	7.55	3	"		104.5	73	
	8.55	4	"		101.5	73	

DATE	TIME	MIN	AMPS	VOLTS 38V	TEMPS 39F	104F	
4/30/09	AM 9.55	5	30		100.5	72	
	10.55	6	"		100	72	
	11.55	7	"	126	100.5	72	
				Discharge T55			
4-29-09	PM 12.00	0	40	133			
	.02	2	"	137			
	.05	5	"	134.5			
	.10	10	"	132			
	.20	20	"	130			
	.30	30	"	127.5			
	.40	40	"	126			
	1.00	60	"	122	102.7	72.5	
	.20	80	"	121			
	.40	100	"	119.7			
	2.00	120	"	118	105	72.3	
	.20	140	"	117			
	.40	160	"	115.7			
	3.00	180	"	114	109	72.2	
	.20	200	"	113			
	.40	220	"	106.2			
	4.00	240	"	100.2	110	72.2	
	.10	250	"	100			109
	.20	260	"	94			
	.30	270	"	77			

DATE	TIME	MIN	AMP	VOLTS 38V	TEMP 39F	104F	
4-29-09	PM 4.48	298	40	50	114	72.2	79.2
				Charge T56			
4-29-09	PM 4.55	0	30		114	72	
	5.55	1	"		112	72	
	6.55	2	"		108.5	72	
	7.55	3	"		104.7	72	
	8.55	4	"		101	72	
	9.55	5	"		100.5	72	
	10.55	6	"		99.2	72.2	
	11.55	7	"	126.2	100.5	74	
				Discharge T56			
4/30	AM 12.00	0	40	134.7			
	.02	2	"	137			
	.05	5	"	134.2			
	.10	10	"	132.2			
	.20	20	"	130			
	.30	30	"	127			
	.40	40	"	126			
	1.00	60	"	123	103	74	
	.20	80	"	121			
	.40	100	"	119.5			
	2.00	120	"	118	108.7	73.7	
	.20	140	"	117			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMPS 398	TEMPS 1048	
4/30/17	2.40	160	40	115			
	3.00	180	"	113	106.5	73.5	
	.20	200	"	110.2			
	.40	220	"	106			
	.50	230	"	103			
	4.00	240	"	100	109	73	-160.
	.10	250	"	97			
	.20	260	"	92			
	.30	270	"	82			
	.40	280	"	64			
	.44	284	"	50	112.5	73	-198.3
4/30	AM		Change	157			
	4.55	0	30		112	73	
	5.55	1	"		109	72.2	
	6.55	2	"		105	72.2	
	7.55	3	"		102	72	
	8.55	4	"		100	72	
	9.55	5	"		99	72	
	10.55	6	"		99	71.5	
	11.55	7	"	124	98.5	72	
			Discharge	157			
	PM						
4-30-09	12.00	0	40	130			
	.02	2	"	129			
	.05	5	"	127.5			
	.10	10	"	122			

DATE	TIME	MIN	AMP	VOLTS 398	TEMP 398	TEMP 1048	
	PM						
4-30-09	12.20	20	40	130			
	.30	30	"	127			
	.40	40	"	125			
	1.00	60	"	123	102	72	
	.20	80	"	120			
	.40	100	"	119			
	2.00	120	"	118	104	72	
	20	140	"	117			
	.40	160	"	115			
	3.00	180	"	113	107	72.7	
	.20	200	"	105			
	.40	220	"	105			
	4.00	240	"	100	109	73	-160.
	.20	260	"	91.5			
	.30	270	"	82.2			
	.40	280	"	61			
	.43	283	"	50	113	72.2	-189.
			Change	158			
4-30-09	4.55	0	30		116	73	
	5.55	1	"		110.5	73	
	6.55	2	"		105.2	73.5	
	7.55	3	"		105.2	72.5	
	8.55	4	"		102.2	73.5	
	9.55	5	"		101	72.7	

DATE	TIME	MIN.	AMP	VOLTS 392	TEMP 398	Date	
4/30/71	10:55	6	30		100	74	
	11:55	7	"	120.7	100	74	
				Discharge	158		
5/1	12:55	0	40	140.2			
	.02	2	"	136			
	.05	5	"	134			
	.10	10	"	132.2			
	.20	20	"	129.7			
	.30	30	"	127.7			
	.40	40	"	126			
	1.00	60	"	123	102	73.2	
	.20	80	"	120.7			
	.40	100	"	119			
	2.00	120	"	118	103.5	72.9	
	.20	140	"	117			
	.40	160	"	115			
	3.00	180	"	113	106	72.5	
	.20	200	"	110.2			
	.40	220	"	106			
	.50	230	"	103.7			
	4.00	240	"	101	109.7	72.5	-163
	.05	243	"	100			
	.10	250	"	97			
	.20	260	"	92.2			
	.30	270	"	87.2			
	.40	280	"	68			
	.45	285	"	50	112.5	72.5	-190

DATE	TIME	MIN.	AMP	VOLTS 392	TEMP 398	100-8	
	Elect. over	for the	6 hrs	charge +	6 quarter	hours	
4/6				6 hrs charge			
	AM 4:55	0	30		69.5	69.5	
	5:55	1	"		75	69	
	6:55	2	"		77.5	67	
	7:55	3	"		79	65.5	
	8:55	4	"		81.5	66.5	
	9:55	5	"		82.5	67.5	
	10:55	6	"		89	68.5	
	11:55	7	"	137	92	70	
				Discharge	159		
4-5-71	PM 12:00	0	40	135.5			
	.02	2	"	135.7			
	.05	5	"	134			
	.10	10	"	130.7			
	.20	20	"	129			
	.30	30	"	127			
	.40	40	"	125.5			
	1.00	60	"	122	99.7	72.5	
	.20	80	"	120.5			
	.40	100	"	119			
	2.00	120	"	118	101.2	72.2	
	.20	140	"	116.7			

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	TEMP class	
	PM						
5/3/09	2.40	160	40	1.157			
	300	180	"	1.132	103.2	72	
	20	200	"	1.10			
	40	220	"	1.052			
	50	230	"	1.02			
	56	236	"	1.00			-1553
	400	240	"	.982	101.7	71.7	
	10	250	"	.97			
	20	260	"	.93			
	30	270	"	.167			
	33	273	"	.150			-192.
			Charge # 160				
	PM.						
5-3-09	455	0	30		105.	71.5	
	555	1	"		106.7	71.5	
	655	2	"		105.2	72	
	755	3	"		103.7	72	
	855	4	"		101.	72	
	955	5	"		100.	72	
	1055	6	"		1.01.	731	
	11.55	7	"	175.7	100.5	732	
				Discharge		160	
5/4	AM 12.00	0	40	142			
	02	2		132			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP class	
5/4/09	AM 12.05	5	40	1.332			
	15	15	"	132.5			
	30	20	"	133			
	35	30	"	127.7			
	40	40	"	125.7			
	1.00	60	"	123	103.5	73	
	20	80	"	121			
	40	100	"	119.5			
	2.00	120	"	118	104.5	72.5	
	20	140	"	116.5			
	40	160	"	115			
	3.00	180	"	112.2	105.5	72.5	
	20	200	"	110			
	4.40	220	"	105.7			
	50	230	"	105			
	4.00	240	"	100	109.5	72.5	- 160.
	10	250	"	96.2			
	20	260	"	91			
	30	270	"	82			
	40	280	"	62			
	43	283	"	50	111.5	72.5	-1.88.7
5/4			Charge			160	
	AM						
	4.55	0	30		112.5	72.7	
	5.55	1	"		110	73	
	6.55	2	"		108.7	73	
	7.55	3	"		107	72.5	

DATE	TIME	MIN	AMPS	VOLTS 398	TEMPS 398	TEMPS 10618	
5/4/09	AM 8.55	4	30		100.5	72.7	
	9.55	5	"		98.5	72.5	
	10.55	6	"		98.5	72	
	11.55	7	"	1.26	99	72	
				Discharge #161			
5/4	PM 12.00	0	40	1.425			
	.02	2	"	1.367			
	.05	5	"	1.337			
	.10	10	"	1.32			
	.20	20	"	1.29			
	.30	30	"	1.272			
	.40	40	"	1.257			
	1.00	60	"	1.23	101.2	72	
	.20	80	"	1.205			
	.40	100	"	119			
	2.00	120	"	1.172	101.9	71.5	
	.20	140	"	116			
	.40	160	"	1.114			
	3.00	180	"	1.117	102	71.5	
	.20	200	"	108			
	.40	220	"	1.102			
	.50	230	"	101			
	4.00	240	"	1.00			155.3
	4.00	240	"	97	104.7	71.5	

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Adk	
5/4/09	PM 4.10	250	40	.937			
	.20	260	"	.87			
	.30	270	"	.737			
	.38	278	"	.50			185.3
				Charge #162			
5/4	PM 4.55	0	30		107.5	71.5	
	5.55	1	"		105	72	
	6.55	2	"		104	71.5	
	7.55	3	"		103	71	
	8.55	4	"		102	71.7	
	9.55	5	"		100.5	73	
	10.55	6	"		100	72.2	
	11.55	7	"	1.77	100	72.2	
				Discharge #162			
5/5	AM 12.00	0	40	1.415			
	.02	2	"	1.365			
	.05	5	"	1.347			
	.10	10	"	1.325			
	.20	20	"	1.31			
	.30	30	"	1.297			
	.40	40	"	1.287			
	1.00	60	"	1.23	103	73	

DATE	TIME	MIN	AMP	VOLT 348	TEMPS 348	TEMPS 1026	
5/5/79	AM 1.20	20	40	1215			
	.40	100	"	1157			
	2.00	120	"	117	114.2	72.5	
	.20	140	"	117			
	.40	160	"	116			
	3.00	180	"	113	106	72.5	
	.20	200	"	1102			
	.40	220	"	106			
	.50	230	"	103.7			
	4.20	270	"	100	108	72.5	-160
	.40	290	"	97			
	.50	300	"	92.2			
	.55	270	"	84			
	.55	230	"	67			
	.55	215	"	50	109.2	71	-190
5/5	AM	Change		163			
	4.55	0	30		113	71	
	5.55	1	"		117	72.5	
	6.55	2	"		106.5	74	
	7.55	3	"		101	73.7	
	8.55	4	"		99.2	72.7	
	9.55	5	"		98	71.7	
	10.55	6	"		98	72.2	
	11.55	7	"	118	97.2	72	

DATE	TIME	MIN.	AMP	VOLTS 348	TEMP 348	TEMP 1026	
			Dialanger #163				
5-5-79	PM 12.00	0	40	142			
	.02	2	"	1365			
	.05	5	"	1337			
	.10	10	"	132			
	.20	20	"	1297			
	.30	30	"	127			
	.40	40	"	125			
	1.00	60	"	1215	101	73.2	
	.20	80	"	1202			
	.40	100	"	119			
	2.00	120	"	117	102.7	73.5	
	.20	140	"	116			
	.40	160	"	1142			
	3.00	180	"	112	104	73	
	.20	200	"	109			
	.40	220	"	1042			
	.50	230	"	1017			
	.55	235	"	100			-158.7
	4.00	240	"	1982	105	73.5	
	.10	250	"	195			
	.20	260	"	189			
	.30	270	"	1917			
	.40	280	"	1617			
	.44	284	"	150			-189.3

DATE	TIME	MIN	AMPS	VOLTS 39V	TEMP 39V	TEMP Idle	
			Charge		164		
5/5/09	PM 4.55	0	30		110.5	73.2	
	5.55	1	"		105.	73.	
	6.55	2	"		103.	73.5	
	7.55	3	"		101.5	74.	
	8.55	4	"		100.5	74.5	
	9.55	5	"		99.5	75	
	10.55	6	"		99.7	75	
	11.55	7	"	17#	100.2	75.7	
			Discharge		164		
5/6	AM 12.00	0	40	141			
	.02	2	"	136			
	.05	5	"	134			
	.10	10	"	132			
	.20	20	"	129			
	.30	30	"	•127			
	.40	40	"	125.5			
	1.00	60	"	122	102.5	76	
	.20	80	"	120			
	.40	100	"	118.5			
	2.00	120	"	117.5	105	75	
	.20	140	"	116			
	.40	160	"	114.2			
	3.00	180	"	111	105.5	72	

DATE	TIME	MIN	AMPS	VOLTS 39V	TEMPS 39V	TEMPS 104F	
5/6/09	AM 3.20	200	40	107.5			
	.30	210	"	107.2			
	.40	220	"	107			
	.45	225	"	102			
	.50	230	"	99			-152
	4.00	240	"	96.2	104	73.	
	.10	250	"	92.2			
	.20	260	"	85			
	.30	270	"	70			
	.35	275	"	56			
	.36	276	"	50	107.5	72.5	-1993
5/6	AM			Charge	165		
	4.55	0	30		107.5	72	
	5.55	1	"		107.5	73	
	6.55	2	"		104	71.5	
	7.55	3	"		101.2	71.2	
	8.55	4	"		99.5	72	
	9.55	5	"		96	72.5	
	10.55	6	"		93.5	76	
	11.55	7	"	100	99.5	77.5	
				Discharge	165		
5/6/09	PM 12.00	0	40	142			
	.02	2	"	139			
	.05	5	"	137			
	.10	10	"	132			
	.20	20	"	129			

DATE	TIME	MIN.	AMP	VOLTS #398	TEMP #398	TEMP other
5-6-09	PM 12.20	20	40	1.19		
	40	40	"	1.22		
	1.00	60	"	1.22	103	90
	20	80	"	1.202		
	40	100	"	1.19		
	2.00	120	"	1.177	106.5	80.5
	20	140	"	1.162		
	40	160	"	1.15		
	3.00	180	"	1.13	113.2	81.7
	20	200	"	1.097		
	40	220	"	1.055		
	50	230	"	1.032		
	4.00	240	"	1.00	113	83
	10	250	"	.962		
	20	260	"	.93		
	30	270	"	.847		
	40	280	"	.767		
	45	285	"	.50		.190

Change #

5-6-09	PM 4.45	0	20	
	5.15	1	"	
	6.15	2	"	
	7.15	3	"	

Prime continued to Vol. #III.

A4 #398

Run	Charge	Disch	C.Temp	Ampere-Hours To 1V.	Ampere-Hours To .5V.	Remarks
	See Runs #1-74 in Volume I.					
75	4 hrs. @ 30	Oct 30	97.7	117.2	—	
76	2 hrs. @ 30 60	"	98.1	58.5	—	
77	"	"	98.2	60	—	
78	"	"	98.6	60	—	
79	"	"	90.7	59.2	—	59.6
80	"	"	90.1	59.7	—	
81	4 hrs. @ 30 120	"	98.1	120.7	—	
82	"	"	90.3	116.7	—	Prev. Idle 41 Hours
83	"	"	89.4	118.5	—	117.2 Av.
84	"	"	90	116.5	—	(141 in 8 hr. disch.)
85	6 hrs. @ 30 180	"	90.3	162	—	
86	"	"	91.8	165.5	—	163.7
87	"	"	88.4	163.5	—	
88	7 hrs @ 30 210	"	87	181.5	—	
89	"	"	85.7	183	—	182.8
90	"	"	87.6	184	—	
91	8 hrs. @ 30 240	"	86.9	194	—	
92	"	"	90.1	194.2	—	194.6
93	"	"	91	192.5	—	Prev. Idle 35 Hrs.
94	"	"	91.8	195.3	—	
95	10 hrs. @ 30 300	"	90.9	206.2	—	204.2
96	"	"	92.4	202.2	—	
97	12 hrs. @ 30 360	"	96.1	210.5	—	210.6
98	"	"	96.1	210.7	—	

Run	Charge	Dis.	C.Temp	Ampere-Hours To 1V.	Ampere-Hours To .5V.	Remarks
99	15 hrs. @ 30 450	Oct 30	89.2	216	—	215.5
100	"	"	86.2	213	—	Prev. Idle 41 Hrs.
101	"	"	90.2	217.5	—	
102	7 hrs. @ 30	"	91	189.5	—	
103	"	"	88.2	197	—	
104	"	"	87.6	196.7	—	
105	"	"	92.3	197.2	—	
106	"	"	89.7	197.7	—	
107	"	"	90.7	196.5	—	
108	"	"	87.6	195.7	—	Prev. Idle 51 Hrs.
109	"	"	87	195	—	
110	"	"	90.4	188.7	—	
111	"	"	89.3	188.7	—	
112	"	"	90.9	188	215.2	
113	"	"	89.3	172	197.7	
114	"	"	87.4	177	190	
115	"	"	90.3	178.5	192.2	
116	"	"	89.7	177.5	192	Prev. Idle 44 hrs.
117	"	"	94.2	178	190	
118	"	"	90.3	181	194.2	
119	"	"	87.7	177	190	
120	"	"	89.5	179	—	
121	"	"	90.2	185	—	
122	"	"	85	187.2	—	
123	"	"	90.7	185	—	

A4 #398.

Run	Charge	Discha	C. Tem	Ampere-Hours To 1V.	Ampere-Hours To .50	Remarks
124	7 hrs. @ 30	Od 30	92.6	185.5	—	
125	"	"	94.8	194.2	—	Prev. Idle 38 Hours.
126	"	"	94.9	193.5	—	" " 11 "
127	"	"	90.4	192.2	—	" " 11 "
128	"	"	92.9	191.5	—	" " 11 "
129	"	"	94.8	191.7	—	" " 11 "
130	"	"	91.6	194.2	—	" " 11 "
131	"	"	82.4	192.2	—	" " 35 "
132	"	"	95.5	191.7	—	" " 72 "
133	"	"	97.5	195	—	Consecutive Run
134	"	"	91.1	192.5	—	" " "
135	"	"	93.2	194.5	—	" "
136	"	"	91.4	192	—	" "
137	"	"	90.7	192.5	—	" "
138	"	"	89.6	196	—	" "
139	"	"	200.9	180.5	208.2	" "
140	15 hrs. @ 30	"	92	219	240	Prev. Idle 37 Hrs.
141	"	"	90.2	222	242.5	
142	7 hrs. @ 30	Od 40		168	184.5	
143	"	"		173.3	192.7	
144	"	"		170.4	190.4	
145	"	"		173.3	194	
146	"	"		170.3	190.7	
147	"	"		168.3	192.3	
148	"	"		165.3	193	

Run	Charge	Dis.	#398 1V.	#398 .5V.	Remarks
149	7 hrs. @ 30	Od 40	161.7	184.7	Prev. Idle 36 Hrs.
150	"	"	162.7	186.7	
151	"	"	165	190.3	
152	"	"	169	193	
153	"	"	164	188.7	
154	"	"	164	189	
155	"	"	167	192	
156	"	"	160	189.3	
157	"	"	160	188.7	
158	"	"	163	190	
159	"	"	155.3	192	Prev. Idle.
160	"	"	160	188.7	
161	"	"	155.3	185.3	
162	"	"	160	190	
163	"	"	158.7	189.3	
164	"	"	152	184.3	
165	"	"	160	190	

Results Continued in Vol. III

Notebook, N-09-05-06

5-6-09

A4 CELL #398,

Volume III.

Runs Continued from Vol. II.

DATE	TIME	MIN	AMP	VOLTS # 398	TEMP # 398	TEMP Sole	
			Charge #			166.	
	PM.						
5-6-09	11.55	0	30	1.97	83.5		
	5.55	1	"	116.	83.7		
	6.55	2	"	114.2	84		
	7.55	3	"	112.7	84		
	8.55	4	"	112.	84.		
	9.55	5	"	111.	84		
	10.55	6	"	109.5	83.5		
	11.55	7	"	1.72	107.5	82	
			Discharge # 166				
	AM						
5/7/09	12.00	0	40	1.40			
	02	2	"	1.35			
	05	5	"	1.337			
	10	10	"	1.32			
	20	20	"	1.29			
	30	30	"	1.265			
	40	40	"	1.247			
	1.00	60	"	1.22	109.2	81.5	
	20	80	"	1.202			
	40	100	"	1.19			
	2.00	120	"	1.172	112.5	82	
	20	140	"	1.157			
	40	160	"	1.13			
	3.00	180	"	1.11	114.2	82.	

DATE	TIME	MIN	AMPS	VOLTS # 398	TEMP # 398	TEMP Sole	
	AM						
5/7/09	3.20	200	40	1.07			
	.32	212	"	1.05			
	.40	220	"	1.02			
	.50	230	"	1.00			
	4.00	240	"	.97	117.7	81.7	
	.10	250	"	.96			
	.20	260	"	.96			
	.30	270	"	.98			
	.35	275	"	.97.7			
	.35½	275	"	—	119.7	81.7	-1237
5/7				Charge #	117		
	4.55	0	30		121.5	81	
	5.55	1	"		115.5	82.5	
	6.55	2	"		111	79.5	
	7.55	3	"		108	78.5	
	8.55	4	"		105	77.7	
	9.55	5	"		103	77.2	
	10.55	6	"		102.7	77	
	11.55	7	"	1.75	102.5	77	
				Discharge # 167			
	PM						
5-7-09	12.00	0	40	1.13			
	02	2	"	1.15			
	05	5	"	1.137			
	10	10	"	1.12			
	20	20	"	1.09			
	30	30	"	1.08			

DATE	TIME	MIN.	AMP	VOLTS 39.8	TEMP 39.8	TEMP Solder	
5-7-09	PM 12.45	40	40	122			
	1.00	60	"	122	106.5	77.8	
	.20	80	"	120			
	.40	100	"	119			
	2.00	120	"	117	105.5	78	
	.20	140	"	116			
	.40	160	"	114			
	3.00	180	"	111	112.2	78.	
	.20	200	"	109			
	.30	210	"	105			
	.40	220	"	102.7			
	.48	228	"	100			-152
	50	230	"	99.5			
	4.00	240	"	97.5	116.7	78.5	
	.10	250	"	94.			
	.20	260	"	87			
	.30	270	"	74			
	.37	277	"	50			-184.7
			Change # 168				
5-7-09	PM 4.55	0	30		118	79.	
	5.55	1	"		113.	77.5	
	6.55	2	"		107.5	77.7	
	7.55	3	"		104.	77	
	8.55	4	"		101	76.5	

DATE	TIME	MIN.	AMP	VOLTS 39.8	TEMP 39.8	TEMP Solder	
5-7-09	PM 9.55	5	30		100	76.5	
	10.55	6	"		100	76.5	
	11.55	7	"	125.7	106.7	76	
				Discharge		168	
5/8	AM 12.00	0	40	141			
	.02	2	"	136			
	.05	5	"	132.5			
	.10	10	"	131.7			
	.20	20	"	129			
	.30	30	"	127			
	.40	40	"	125			
	1.00	60	"	122	108	76.5	
	.20	80	"	120			
	.40	100	"	119.2			
	2.00	120	"	117	106.5	76.5	
	.20	140	"	116			
	.40	160	"	113.7			
	3.00	180	"	112.2	103.7	77	
	.20	200	"	108			
	.30	210	"	105.5			
	.40	220	"	103.7			
	.50	230	"	100			-152.3
	4.00	240	"	97	113	77	
	.10	250	"	93.7			
	.20	260	"	88			
	.30	270	"	77			
	.35	275	"	63.7			
	.37	277	"	50	116	77	-184.7

DATE	TIME	MIN	AMPS	VOLTS 39.8	TEMPS 39.8	20.5
5/10				Charge		
	4.55		20	115.5	77.5	
	5.55	1	"	112.2	77.5	
	6.55	2	"	111.7	78	
	7.55	3	"	106	78	
	8.55	4	"	105	77	
	9.55	5	"	101.7	76	
	10.55	6	"	100	76	
	11.55	7	"	100	76	
				Stop charge		
				Stop.		Discharge 110
5/10	12.00	0	40	127	75.5	74.5
	.02	2	"	124		
	.05	5	"	122		
	.10	10	"	121		
	.20	20	"	119.7		
	.30	30	"	118.2		
	.40	40	"	117		
	1.00	60	"	116	85	75
	.20	80	"	114.2		
	.40	100	"	113.7		
	2.00	120	"	112.2	93.2	75
	.20	140	"	111		
	.40	160	"	109.2		
	.50	170	"	107		
	3.00	180	"	105.2	100.5	75.5

DATE	TIME	MIN	AMPS	VOLTS 39.8	TEMPS 39.8	10.6	
5/10/07	3.10	190	40	105			
	.20	200	"	100			-133.3
	.30	210	"	97			
	.40	220	"	96			
	.50	230	"	90.2			
	4.00	240	"	84	106	75.7	
	.10	250	"	68			
	.16	256	"	50	107.7	76	-120.7
				Charge	170		
5/10	4.55	0	30		107.7	76	
	5.55	1	"		105.7	76	
	6.55	2	"		103	76	
	7.55	3	"		102.2	76	
	8.55	4	"		101.5	75	
	9.55	5	"		94.5	74.5	
	10.55	6	"		93.7	75.5	
	11.55	7	"	178	93.5	77	
				Discharge	170		
5-10-07	12.00	0	20	143			
	.02	2	"	136.5			
	.05	5	"	135			
	.10	10	"	132			
	.20	20	"	129			
	.30	30	"	126.7			
	.40	40	"	124.7			

Date	Time	Min	Amp	Volts	Temp 298	Temp Sulfa	
5-10-09	PM 1.00	60	40	1.22	98.5	78	
	.20	80	"	1.20			
	.40	100	"	1.18			
	2.00	120	"	1.17	101.7	72.5	
	.20	140	"	1.15			
	.40	160	"	1.13			
	3.00	180	"	1.112	104	79	
	.20	200	"	1.08			
	.30	210	"	1.057			
	.40	220	"	1.022			
	.50	230	"	1.00			-152.2
	4.00	240	"	.97	106.2	79	
	.10	250	"	.942			
	.30	260	"	.90			
	.30	270	"	.802			
	.40	280	"	.50			-126.7
			Charge # 171				
5-10-09	PM 4.55	6	30	1.16.5	78		
	5.55	1	1	109.5	78		
	6.55	2	1	106.2	78		
	7.55	3	1	103.5	78		
	8.55	4	1	101.	78		
	9.55	5	1	99.5	78		
	10.55	6	1	99.2	76.2		

Date	Time	Min	Amps	Volts 298	Temp 298	Temp Sulfa	
5-10-09	PM 11.55	7	30	116	102	76.2	
			Discharge 171				
5/11	AM 12.00	0	40	140			
	.02	2	"	137			
	.05	5	"	134			
	.10	10	"	132			
	.20	20	"	129.7			
	.30	30	"	127			
	.40	40	"	125.5			
	1.00	60	"	123.2	104	75.7	
	.20	80	"	120.2			
	.40	100	"	118.5			
	2.00	120	"	117	117	76	
	.20	140	"	116			
	.40	160	"	114			
	3.00	180	"	112	109.5	76.2	
	.20	200	"	108			
	.30	210	"	105.5			
	.40	220	"	103			
	.50	230	"	100			-153.3
	4.00	240	"	97.7	112	75.2	
	.10	250	"	94			
	.20	260	"	90.7			
	.30	270	"	75			
	.39½	279½	"	.50	114.5	74.7	-136.3

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 397	TEMP 1062	
5/11/09			Discharge		172		
	4.55				111	74	
	5.55	1			1107	74	
	6.55	2			107	73.5	
	7.55	3			104	73	
	8.55	4			1015	73	
	9.55	5			997	72.5	
	10.55	6			989	72	
	11.55	7		1.06	99	707	
			Discharge		# 172		
5-11-09	PM. 12.00	0	40	1.03			
	.02	2	"	1.06 PM			
	.05	5	"	1.042			
	.10	10	"	1.02			
	.20	20	"	1.045			
	.30	30	"	1.07			
	.40	40	"	1.052			
	1.00	60	"	1.222	102.5	73.2	
	.20	80	"	1.20			
	.40	100	"	1.19			
	2.00	120	"	1.172	104.5	72.7	
	.20	140	"	1.16			
	.40	160	"	1.14			
	3.00	180	"	1.115	1045	72.7	

DATE	TIME	MIN.	AMP	VOLTS 398	TEMP 398	TEMP 1062	
5/11/09	PM 3.20	200	40	1.08			
	.42	222	"	1.027			
	.50	230	"	1.00			- 153.3
	4.00	240	"	.97	1092	72.7	
	.10	250	"	.942			
	.20	260	"	.90			
	.30	270	"	.74			
	.38	278	"	.50			- 185.3
			Charge	# 173			
5/11/09	PM 4.55	0	30		1.027	71.7	
	5.55	1	"		1.105	71.2	
	6.55	2	"		105	71	
	7.55	3	"		1027	71.5	
	8.55	4	"		102	72	
	9.55	5	"		101	73	
	10.55	6	"		1007	73.2	
	11.55	7	"	1.12	100	73	
			Discharge		# 173		
5/12	AM 12.00	0	40	1.25			
	.02	2	"	1.22			
	.05	5	"	1.34			
	.10	10	"	1.32			

DATE	TIME	MIN	AMP	VOLTS 39.8	TEMP 39.8	Table	
5/12/19	12:[illegible]	[illegible]	"	109.[illegible]			
	[illegible]	[illegible]	[illegible]	120.[illegible]			
	[illegible]	[illegible]	[illegible]	115.7			
	1:[illegible]	[illegible]	"	122	103	73	
	[illegible]	[illegible]	[illegible]	110.2			
	[illegible]	[illegible]	[illegible]	119			
	2:[illegible]	[illegible]	"	117	104	73	
	[illegible]	[illegible]	[illegible]	120			
	[illegible]	[illegible]	[illegible]	119			
	3:[illegible]	[illegible]	"	111	106.5	73	
	[illegible]	[illegible]	[illegible]	120.2			
	[illegible]	[illegible]	[illegible]	120.7			
	[illegible]	[illegible]	[illegible]	120			
	[illegible]	[illegible]	[illegible]	120			— 153.3
	4:[illegible]	[illegible]	"	117	111	73	
	[illegible]	[illegible]	[illegible]	117			
	[illegible]	[illegible]	[illegible]	117.7			
	[illegible]	[illegible]	[illegible]	117.7			
	[illegible]	[illegible]	[illegible]	117.7			
	4:[illegible]	281	"	50	112	73	— 187.3
5/12	A.M.	Discharge		"		174	
	4:55	0	30		111.2	73	
	5:55	1	"		109	72	
	6:55	2	"		105	71.7	
	7:55	3	"		102.2	71	
	8:55	4	"		99	174	
	9:55	5	"		97.7	71	

DATE	TIME	MIN	AMP	VOLTS 39.8	TEMP 39.8	Table	
	10:55	6	30		97.7	72	
	11:57	7	"		98.5	73	
			Discharge #			174	
5/12	AM 12:00	0	40	1.148			
	.05	5	"	1.34			
	.10	10	"	1.32			
	.20	20	"	1.295			
	.44	44	"	1.245			
	1:01	61	"	1.225	103	74.2	
	20	80	"	1.215			
	40	100	"	1.187			
	2:00	120	"	1.172	105.5	75.5	
	20	140	"	1.16			
	40	160	"	1.142			
	3:00	180	"	1.12	108.5	76.5	
	20	200	"	1.08			
	30	210	"	1.065			
	40	220	"	1.04			
	50	230	"	1.005			
	52	232	"	1.00			— 154.7
	4:00	240	"	.98	113.5	77.7	
	10	250	"	.952			
	20	260	"	.70			
	30	270	"	.792			
	40	280	"	1.50			— 186.7

DATE	TIME	MIN	AMP	VOLTS 398	TEMP 398	Remarks
				Charge	175	
5/12/09	PM 4.55	0	30	120	78	
	5.55	1	"	116.2	77.5	
	6.55	2	"	113	77.7	
	7.55	3	"	111.7	80	
	8.55	4	"	108	80	
	9.55	5	"	104.5	80	
	10.55	6	"	104.5	79.5	
	11.55	7	"	104	79	
				Discharge	175	
5/13	12.00			132		
				130		
				134		
				132.7		
				132.5		
				127		
				125.5		
	1.00	60		122.2	105	77
	120.5			120		
	.40	120		118.2		
	2.00	120		117	105	76
	.20	140		115.7		
	.40	160		112.7		
	3.00	180		110.2	105.7	74.5

DATE	TIME	MIN	AMP	VOLTS 398	TEMP 398	1342	
5/12/11	AM 2.20	200	40	106.5			
	.30	210	"	104.2			
	.40	220	"	103.5			
	.50	230	"	100			
	3.00	240	"	97.5			— 150
	4.00	240	"	95.7	114.2	74	
	.10	250	"	91.7			
	.20	260	"	89			
	.30	270	"	65			
	.35	272	"	50	111.5	73.5	— 184.
5/13				Charge	176.		
	AM 4.55	0	30	112.5	72.5		
	5.55	1	"	104.5	73		
	6.55	2	"	105	72.5		
	7.55	3	"	102.2	73		
	8.55	4	"	98.2	72		
	9.55	5	"	96.5	71.7		
	10.55	6	"	93.2	71.7		
	11.55	7	"	1.29	92.2	72.5	
				Discharge # 176			
5/13	12.00	0	40	1.25			
	.04	1	"	1.335			
	.10	10	"	1.31			
	.20	20	"	1.282			
	.40	40	"	1.245			
	1.00	60	"	1.15			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Solc	
5/13/09	1.20	80	40	1.197	96.2	74.7	
	40	100	"	1.18			
	2.00	120	"	1.162	97.	75	
	20	140	"	1.15			
	40	160	"	1.127			
	3.05	185	"	1.095	101.5	77	
	20	200	"	1.06			
	30	210	"	1.03			
	40	220	"	1.00			-146.7.
	50	230	"	.975			
	4.00	240	"	.947	106.2	78.	
	10	250	"	.91			
	20	260	"	.83			
	30	270	"	.169.			
	35	275	"	.150			-183.3.
				Charge # 177			
5/13/09	PM 4.55	0	30		110.5	78.5	
	5.55	1	"		109.	79.	
	6.55	2	"		106.	79.	
	7.55	3	"		104.	79.	
	8.55	4	"		101.5	78.5	
	9.55	5	"		101.	78.	
	10.55	6	"		99.	77.	
	11.55	7	"	.172	97.5	76.7	

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Solc	
5/14/09	AM			Discharge 177			
	12.00	0	40	141.7			
	.04	4	"	134.2			
	.10	10	"	131.7			
	.20	20	"	129			
	.40	40	"	125			
	1.00	60	"	122	101	75	
	20	80	"	120			
	.40	100	"	118			
	2.00	120	"	117	103	75.5	
	20	140	"	115.5			
	.40	160	"	114			
	3.00	180	"	111	105.5	75	
	20	200	"	107			
	30	210	"	105			
	40	220	"	102			
	47	227	"	100			-152.
	50	230	"	99			
	4.00	240	"	96.5	110	75	
	15	250	"	93			
	25	260	"	86.2			
	30	270	"	72			
	33½	277½	"	50	113	75	-186.3

DATE	TIME	MIN	AMPS	VOLTS	TEMP		
5/14/09	AM						
				115	75.5		
				115	76.2		
				116.2	76.5		
				117.2	76		
				104.7	76		
				103.5	76.7		
				103	77.5		
				103.2	78.5		
	Discharge # 178						
5/14/09	12:00	0	40	1.10			
	.04	4	"	1.34			
	.10	10	"	1.222			
	.20	20	"	1.295			
	.40	40	"	1.257			
	1:00	60	"	1.225			
	.20	80	"	1.28	108	80	
	.40	100	"	1.19			
	2:00	120	"	1.177	109	81	
	.20	140	"	1.16			
	.40	160	"	1.142			
	3:00	180	"	1.12			
	.40	200	"	1.08			
	.50	210	"	1.05	1.135	82.7	

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	Solar	
5/14/09	PM 3:40	220	40	1.032			
	50	230	"	1.01			
	55	232½	"	1.00			−155.7
	4:00	240	"	.977	116	83	
	10	250	"	.942			
	20	260	"	.882			
	30	270	"	.75.7			
	38	278	"	.50			−185.3
			Charge # 179				
5/14/09	PM 4:55	0	30		117.2	83	
	5:55	1	"		118.7	83.7	
	6:55	2	"		1.162	83.7	
	7:55	3	"		1.145	83.7	
	8:55	4	"		1.127	83.7	
	9:55	5	"		1.107	84	
	10:55	6	"		110	84	
	11:55	7	"	1.135	110	85	
			Discharge # 179				
5/15	AM 12:00	0	40	139.7			
	.04	4	"	137			
	.11	10	"	132			
	.21	20	"	129.5			
	.40	40	"	125			

DATE	TIME	MIN.	AMPS	VOLTS 395	TEMP 395	Idle	
5/2/09	AM 1.00	60	40	122	100	53.2	
	.20	60		119.5			
	.40	60		117.5			
	2.00	120		116	127	83	
	.20	140		114.2			
	.40	160		112.5			
	3.00	180		111	127.5	83.	
	.20	200		110			
	.40	220		109			
	.50	230		109.7			-149.6
	.55	235		99			
	4.00	240		86	113.5	82.5	
	.10	250		65.7			
	.20	260		62			
	.30	270		63.7			
	.32	272		70	110.5	82.5	-192.3
5/12	AM 1		Discharge		140		
	4.55	0	20		117	82	
	5.00	1			115.5	82	
	6.00	2			114	81.5	
	7.55	3			110.5	81	
	8.55	4			107.5	79.5	
	9.55	5			106.2	79.2	
	10.55	6			105.7	80.	
	11.55	7		175	106.5	81	

DATE	TIME	MIN	AMPS	VOLTS 395	TEMP 395	
	Start Charge set (66) [illegible] was charging 4½.					
			Discharge		140	
5/12/09	AM 12.00	0	40	126		
	.02	2		123		
	.12	12		121		
	.20	20		119.7		
	.40	40		117		
	1.00	60		116	92.7	81
	.20	80		114.5		
	.40	100		113.7		
	2.00	120		112	99.5	83.2
	.20	140		110		
	.40	160		107		
	.50	170		106.5		
	3.00	180		105.5	105.5	79.7
	.10	190		104		
	.14	194		103		-129.3
	.20	200		95		
	.30	210		94.5		
	.40	220		94.5		
	.50	230		94.5		
	4.00	240		97.7	112	79
	.05	245		50	112	79 -163.3

DATE	TIME	MIN.	AMP.	VOLTS. 39.0	TEMP. 39.1	TEMP. 100.0	
5/17/09				Discharge	#181		
	4:00	0	"		114	78.5	
	5:00	1	"		110.5	78.2	
	6:00	"	"		108	78	
	7:00	2	"		105.5	78	
	8:00	"	"		102.5	77.7	
	9:00	3	"		100	76.5	
	10:00	4	"		97.2	75.2	
	11:00	5	"	1.79	96	77.7	
				Discharge	#181		
5/17	PM 12:00	0	40	1.405			
	:04	4	"	1.302			
	:16	16	"	1.31			
	:20	20	"	1.29			
	:40	40	"	1.25			
	1:00	60	"	1.22	99	74.2	
	:20	80	"	1.197			
	:40	100	"	1.177			
	2:00	120	"	1.162	102	74.5	
	:20	140	"	1.147			
	:40	160	"	1.135			
	3:00	180	"	1.07	103.5	74.2	
	:20	200	"	1.077			
	:33	210	"	1.05			

DATE	TIME	MIN.	AMP.	VOLTS. 39.2	TEMP. 39.1	TEMP. 100.0	
5/17/09	:40	230	1/0	1.022			
	:48	238	"	1.00			-152
	:50	230	"	.99			
	4:00	240	"	.957	106	74	
	:10	250	"	.91			
	:20	260	"	.837			
	:30	270	"	.64 1/2			
	:33 1/2	273 1/2	"	.50			-182.3
				Discharge	#182		
5/17	PM 4:55	0	30		1.085	73.2	
	5:55	1	"		109.5	73.2	
	6:55	2	"				
	7:55	3	"		1.035	74	
	8:55	4	"		1.022	74.5	
	9:55	5	"		1.007	75.2	
	10:55	6	"		100.5	75.2	
	11:55	7	"	1.065	101.	75.5	
				Discharge	#182		
5/18/09	AM 12:00	0	40	1.47			
	:04	4	"	1.347			
	:10	10	"	1.32			
	:20	20	"	1.29			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Sele	
5/18/09	AM 12.40	40	40	122.5			
	1.00	60	"	122.2	104	75.7	
	.20	80	"	120			
	.40	100	"	119.5			
	2.00	120	"	117	105.2	75	
	.20	140	"	115.7			
	.40	160	"	114			
	3.00	180	"	111	106	74.2	
	.20	200	"	108			
	.30	210	"	105.5			
	.40	220	"	102.5			
	.48	228	"	100			— 152.
	.50	230	"	99.5			
	4.00	240	"	95	109	73.2	
	.10	250	"	92			
	.30	270	"	84			
	.38	278	"	82.5			
	.39½	279½	"	50	110.5	73	— 183.7
5/16			Charge		113		
	AM 6.55	0	30.		105	73.	
	6.55	1	"		110	73	
	6.55	2	"		106.5	73.2	
	7.55	3	"		104.5	73.2	
	8.55	4	"		102	73.6	
	9.55	5	"		100.2	74	
	10.55	6	"		98.7	74.2	
	11.55	7	"	1.777	97.6	75	

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Sele	
				Discharge			#18
	12.00	0	40	1.472			
	.04	4	"	1.342			
	.10	10	"	1.32			
	.20	20	"	1.30			
	.40	40	"	1.267			
	1.00	60	"	1.23	102	75	
	.20	80	"	1.205			
	.40	100	"	1.19			
	2.00	120	"	1.176	105.2	75	
	.20	140	"	1.165			
	.40	160	"	1.142			
	3.00	180	"	1.12	107.2	75	
	.20	200	"	1.085			
	.40	220	"	1.037			
	.50	230	"	1.01			
	.53	233	"	1.000			— 155.3
	4.00	240	"	.977	111.5	75	
	.10	250	"	.94			
	.20	260	"	.88			
	.30	270	"	.72			
	.37	277	"	.50			— 184.7

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP bile	
			Charge # 184				
	PM						
5/12/09	4.55	0	30		118	75.	
	5.55	1	"		113.2	75	
	6.55	2	"		110.2	75	
	7.55	3	"		106.7	75.2	
	8.55	4	"		105	75.2	
	9.55	5	"		103.5	75.5	
	10.55	6	"		102.5	75.7	
	11.55	7	"	170.2	103	75.7	
			Discharge			114	
5/13	12.00	8	40	140.2			
	.20	9	"	135.5			
	.40	10	"	132.2			
	.50	11	"	129.2			
	1.0	21	"	129.7			
	1.40	41	"	125.7			
	1.00	60	"	122.5	115	75.5	
	.20	80	"	120			
	.40	100	"	119			
	2.00	120	"	117.5	106.5	75.5	
	.20	140	"	116.2			
	.40	160	"	114			
	3.00	180	"	112	109	75.5	
	.20	200	"	107.7			
	.30	210	"	105.7			
	.40	220	"	102			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP bile	
5/14	AM 2.50	220	40	100			153.3
	4.00	240	"	96.5	111.5	75.2	
	.10	250	"	92.5			
	.20	260	"	84			
	.30	270	"	65			
	.34	274	"	50	114	75.2	183.
5/17	AM			Charge		115	
	4.55	10	30		115.2	75.2	
	5.55	1	"		114	75	
	6.55	2	"		109.5	75.5	
	7.55	3	"		105.5	74	
	8.55	4	"		102.7	73.7	
	9.55	5	"		100.2	73.5	
	10.55	6	"		99.5	73.5	
	11.55	7	"	—	100	74	
			Discharge # 185				
5/18	12.00	0	40	1.41			
	04	4	"	1.352			
	10	10	"	1.325			
	20	20	"	1.30			
	40	40	"	1.255			
	1.00	60	"	1.225	103	74	
	20	80	"	120			
	40	100	"	118.2			

DATE	TIME	MIN	AMB	VOLTS 398	TEMP 398	TEMP dnb.	
5/19/09	2:00	120	"	1172	1047	74.5	
	.20	140	"	1157			
	.40	160	"	1137			
	3:00	180	"	1113	1067	75	
	.20	200	"	1.072			
	.40	220	"	1.03			
	.48	228	"	1.00			-152.
	.50	230	"	.992			
	4:00	240	"	.947	1095	75	
	.10	250	"	.912			
	.20	260	"	.847			
	.30	270	"	.632			
	.33	273	"	.550			-182.
				Charge 186			
5/19/09	PM 4.55	0	80		114.5	74.2	
	5.55	1	"		109.	74.2	
	6.55	2	"		104.5	73.5	
	7.55	3	"		99.7	72.5	
	8.55	4	"		97.7	72	
	9.55	5	"		95.5	71.5	
	10.55	6	"		95	71.5	
	11.55	7	"	100.5	96.5	72	

DATE	TIME	MIN	AMB	VOLTS	TEMP	TEMP	
5/20/09	AM						110
	12:00	0	40	142.5			
	.04	4	"	135			
	.10	10	"	132.2			
	.20	20	"	129.7			
	.40	40	"	127.7			
	1.00	60	"	126.5	100.5	72.5	
	.20	80	"	124.2			
	.40	100	"	119			
	2.00	120	"	117.7	103	73	
	.20	140	"	115.2			
	.40	160	"	115			
	3.00	180	"	112.5	105.5	73	
	.20	200	"	109.5			
	.40	220	"	104			
	.50	230	"	101			
	.55	235	"	100			-155.3
	4.00	240	"	97	108	72.5	
	.10	250	"	94			
	.20	260	"	88			
	.30	270	"	72			
	.37	277	"	50	110	72.5	-185.

DATE	TIME	MIN	AMB	VOLTS	TEMP		
					398	398	Idle
5/20/09	3:40	220	40	1.022			
	49½	229½	"	1.00			-153
	50	230	"	.997			
	4:00	240	"	.962/.082	72.5		
	10	250	"	.92			
	20	260	"	.85			
	31	271	"	.63			
	34	274	"	.50			-182.7

Readings continued in Endurance Book thus run # 191

Cell was then removed from the Endurance Section and was run on the testing board as follows:

Charge # 192

	AM						
5/24/09	6:40	0	30				
	7:10	30	"				
	9:10	150	"				
	11:10	270	"				
	1:10 PM	390	"				
	3:10	510	"		93.5	75.7	
	5:10	630	"		94.5	76.5	

DATE	TIME	MIN	AMB	VOLTS	TEMP		
5/20/09				Charge # 187			
				116	72		
				1.112	73		
				109	74		
				1.055	73.5		
				102	72.5		
				.997	71.7		
				.982	72		
				1.777	99	73	
				Discharge # 187			
5/20/	1:00	0	40	1.297			
	10	10	"	1.289			
	20	20	"	1.275			
	30	30	"	1.295			
	40	40	"	1.282			
	1:00	60	"	1.232	107.5	74	
	20	80	"	1.202			
	40	100	"	1.182			
	2:00	120	"	1.172	104	72	
	20	140	"	1.16			
	40	160	"	1.14			
	3:00	180	"	1.122	105	72.5	
	20	200	"	1.082			
	30	210	"	1.057			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 378	Cells	
5/24/09	PM 710	750	30		95.5	77	
	910	970	"		94.2	75.7	
	40	900	"	1.84			-15 lbs.
				Discharge		192	
5/24	PM 943	—	open	1.597			
	45	0	30	1.502			
	47	2	"	1.422			
	50	5	"	1.39			
	55	10	"	1.37			
	1005	20	"	1.35			
	15	30	"	1.33			
	25	40	"	1.31			
	45	60	"	1.29	93	74.5	
	11.05	80	"	126.2			
	.25	100	"	125			
	AM 5.45	120	"	123.5	91.5	74	
5/25	12.05	140	"	122			
	.25	160	"	121.5			
	.45	180	"	120.5	92.5	73.7	
	1.05	200	"	119.7			
	.25	220	"	119.5			
	.45	240	"	117.2	92	73.7	
	2.05	260	"	117.5			
	.25	280	"	116.5			

DATE	TIME	MIN	AMP	VOLTS 398	TEMP 378	1065	
5/25/09	AM 2.45	300	30	115.5	93.7	73.7	
	3.05	320	"	114			
	.25	340	"	113			
	.45	360	"	112			
	.45	360	"	113	92.2	73	
	.55	370	"	113.5			
	4.05	380	"	113			
	.25	390	"	112.5			
	.35	390	"	112			-199.5
	.25	400	"				
	.35	410	"	95.2			
	.45	420	"	95	94.5	73	wing Ready
	.55	430	"	5.07			
	5.05	440	"	74			
	.15	450	"	51.2			
	.17	452	"	50	95.5	73	-226.
5/25	AM		Charge		93		
	5.20	0	30	50	Charge		
	.50	30	"		99	73	
	7.50	150	"		92.5	73	
	9.50	270	"		99.2	74	
	11.50 PM	390	"		90	76	
	1.50	510	"		94.2	76.7	
	3.50	630	"		99.5	78.5	
	5.50	750	"		99.2	80.2	
	7.50	870	"	1	94	78	
	8.20	900	"	1.85			-15 lbs.

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Idle
			Discharge # 193			
5/25/09	PM 8.23	—	open	1.59		
	25	0	30	1.50		
	27	2	"	1.42		
	30	5	"	1.39		
	35	10	"	1.372		
	45	20	"	1.347		
	55	30	"	1.327		
	9.05	40	"	1.312		
	25	60	"	1.285	93.7	77.7
	45	80	"	1.262		
	10.05	100	"	1.25		
	25	120	"	1.237	93.5	77.5
	45	140	"	1.225		
	11.05	160	"	1.212		
	25	180	"	1.207	94	77
	45	200	"	1.20		
5/26/	AM 12.05	220	"	1.19.5		
	25	240	"	1.19	94.5	77
	45	260	"	1.17		
	1.05	280	"	1.165		
	25	300	"	1.157	95	76.5
	45	320	"	1.14.5		
	2.05	340	"	1.12.2		
	25	360	"	1.10	95.5	76.5

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Idle	
5/26/09	AM 2.35	370	30	1.19			
	10.5	380		1.06			
	1.55	390	"	1.04			
	3.15	400		1.01.5			
	3.03	408	"	100			-202
	5	410	"	99			
	12.5	420	"	94.5	97.5	76	
	35	430	"	87			
	45	440	"	76.5			
	55	450	"	52.5			
	56	451	"	50	99.2	75.5	-225.5
5/26			Charge #		194		
	AM 4.10	0	30	1.14	Charge		
	40	30	"		100	75	
	6.40	150	"		97	75.2	
	8.40	270	"		90.7	76.7	
	10.40	390	"		87.7	76.5	
	PM 12.40	510	"		90.2	76.4	
	2.40	630	"		92	76.2	
	4.40	750	"		92.7	74.7	
	6.40	870	"		93.5	74.5	
	7.10	900	"	1.845			-15 hrs.
				Discharge #	194		
5/26/09	PM 7.13	—	open	1.597		74	
	15	0	30	1.51			
	17	2	"	1.432			
	20	5	"	1.37			

DATE	TIME	MIN	AMP	VOLTS 398	TEMP 398	TEMP dble	
	PM						
5/26/09	7.25	10	30	1.37			
	.35	20	"	1.35			
	.45	30	"	1.322			
	.55	40	"	1.31			
	8.15	60	"	1.29	91.2	73.5	
	.35	80	"	1.27			
	.55	100	"	1.25			
	9.15	120	"	1.232	91.5	73.5	
	.35	140	"	1.222			
	.55	160	"	1.215			
	10.15	180	"	1.21	92.	74.7	
	.35	200	"	1.202			
	.55	220	"	1.197			
	11.15	240	"	119	93	76	
	.35	260	"	118			
	.55	280	"	117			
5/27	AM 12.15	300	"	116	94.5	76	
	.35	320	"	115			
	.55	340	"	112.2			
	1.15	360	"	110.5	95.2	76	
	.35	380	"	107			
	.55	400	"	105			
	2.05	420	"	103			
	.25	440	"	100			-205
	.45	460	"	95	97	76	
	.65	480	"	89			
	.85	500	"	76			
	3.05	520	"	65			
	.25	540	"	50	99.7	76.5	-227.5

DATE	TIME	MIN	AMP	VOLTS 398	TEMP 398	TEMP dble	
							Connected cell in Endurance Section for 50 runs at 8.35 A.M., 5/27/09. On the first run it will get only 3⅓ hrs. of charge.
6/29/09							Cell has now had 50 runs in the Endurance Section. It has stood idle 6½ days and will now have overcharge. Tests as follows:—
							Charge 245
7/1	AM 2.35	0	30				Charge
	3.05	30	"		87	78.5	
	5.05	150	"		88	78	
	7.05	270	"		91	78.5	
	9.05	390	"		93	78.2	
	11.05	510	"		94	80.7	
	PM 1.05	630	"		96	81.7	
	3.05	750	"		97	82.7	
	5.05	870	"		98.2	82.2	
	.35	900	"	1.825			-15 hrs
7/6/09	7.7.						Discharge 245
	5.13	-	30	1.59	84	81.7	
	.40	0	36	1.49			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP ddb	
7/6/09	PM 5:42	2	30	1417			
	.42	5	"	1350			
	.50	10	"	1319			
	6.00	20	"	132			
	.10	30	"	1317			
	.20	40	"	1302			
	.40	60	"	1277	91	80	
	7.00	80	"	1257			
	.20	100	"	123			
	.40	120	"	122	90	79.7	
	8.00	140	"	1215			
	.20	160	"	120			
	.40	180	"	120	91	79	
	9.00	200	"	1195			
	20	220	"	119			
	40	240	"	117	92	79	
	10.00	260	"	116			
	.20	280	"	1145			
	40	300	"	1125	925	78	
	11.00	320	"	109			
	.20	340	"	105.5			
	.30	350	"	103.7			
	.40	360	"	101	99	75	
	.45	365	"	100			— 182.5
	.50	370	"	95			
7/7	12.00	390	"	93			
	.10	395	"	91.5			
	.20	400	"	76.2			
	.30	410	"	74			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP ddb	
7/7/09	AM 12.40	420	30	54			
	.41 1/2	421 1/2	"	50	101.5	77.7	— 210.7
7/7			Charge			24c	
	AM 1.25	0	30				
	.55	30	"		102.7	78	
	3.55	150	"		97.7	79.7	
	5.55	270	"		95	80.5	
	7.55	390	"		95	80	
	9.55	510	"		97	78.2	
	11.55	630	"		98.2	78.5	
	PM 2.20	775	"		100.5	80	
	3.55	870	"		101.5	80.7	
	4.25	900	"	1535			— 15 hrs.
			Discharge #24c				
7/7/09	PM 4.38	—	5	158			
	30	0	30	148	101.7	81	
	32	2	"	141			
	35	5	"	138			
	40	10	"	1362			
	50	20	"	135			
	500	30	"	132			

DATE	TIME	MIN	AMP	VOLTS 39.8	TEMP 398	1016	
7/7/09	PM 5.10	40	30	120			
	30	60	"	1225	101	81	
	50	80	"	1222			
	6.10	100	"	1.24			
	30	120	"	1222	100	82	
	50	140	"	1217			
	7.10	160	"	1215			
	30	180	"	1205	100	82	
	50	200	"	120			
	8.10	220	"	119			
	30	240	"	118	101	82	
	50	260	"	117			
	9.10	280	"	116			
	30	300	"	1.107	102	82.2	
	50	320	"	112			
	10.10	340	"	109			
	30	360	"	104	1025		
	40	370	"	100			—185.
	50	380	"	96			
	11.00	390	"	88			
	10	400	"	75			
	12/7	409/2	-	50	102.	81	—204.7

DATE	TIME	MIN	AMP	VOLT 39.8	TEMPS 398	1025	
7/7/09		Discharge			247		
	AM 12.05	0	30		on Charge		
	.25	30	"		1.03	80.2	
	2.35	150	"		92.2	79	
	4.35	270	"		94	78.2	
	6.35	390	"	"	93	77.5	
	8.35	510	"		97	77.7	
	10.35	630	"		102	79.7	
	12.35 P.M.	750	"		103.7	82.5	
	2.35	870	"		106	84.7	
	3.05	900	"	1.81			—15 hrs
	PM		Discharge		*247		
7/8/09	3.08	—	fin	1.08	106	84.2	
	.10	0	30	1.48			
	.12	2	"	1.41			
	.14	5	"	1.385			
	.20	10	"	1.365			
	.30	20	"	1.34			
	.40	30	"	1.325			
	.50	40	"	1.302			
	4.10	60	"	1.272	107	86.2	
	.30	80	"	1.267			
	.50	100	"	1.24			
	5.10	120	"	1.225	102	87	

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	Idle	
7/8/09	PM 5.00	140	30	121			
	50	160	"	120			
	6.10	180	"	120	102	82.5	
	30	200	"	120			
	50	220	"	118			
	7.10	240	"	118	108.5	88	
	30	260	"	117			
	50	280	"	116			
	8.10	300	"	114	107	88	
	30	320	"	112			
	50	340	"	109			
	9.10	360	"	103.7	109	88	
	20	370	"	100			-185.
	30	380		95.5			
	40	390	"	86			
	50	400	"	72			
	59	409	"	50			-204.5

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	Idle	
			Charge		248		
7/9/09	PM 1.00	0	30		104	86	
	1200	60	"		102	84.5	
	1.00	120	"		98	83	
	2.00	180	"		93.7	82	
	3.00	240	"		93	81	
	4.00	300	"		91	79.7	
	5.00	360	"		91	79.5	
	6.00	420	"	121	91	78	-7 hrs
			Discharge		248		
7/9	AM 6.03	-	0	15			
	.05	0	30	144.2			
	.07	2	"	141			
	.10	5	"	138			
	.15	10	"	135.7			
	.25	20	"	133.7			
	.35	30	"	131.7			
	.45	40	"	130			
	7.05	60	"	127.5	91.7	77.5	
	.25	80	"	125			
	.45	100	"	123.5			
	8.05	120	"	122	92.2	77.5	
	.25	140	"	121.5			
	.45	160	"	120.7			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Idle	
7/7/09	9.05 A.M.	180	30	1.20	93.2	77.5	
	.20	200	"	1.172			
	.15	220	"	1.192			
	10.05	240	"	1.17	94.5	77.5	
	.25	260	"	1.152			
	.45	280	"	1.13			
	11.05	300	"	1.09	96.7	77.7	
	16	311	"	1.055			
	.25	320	"	1.07			
	.32	327	"	1.00	97.5	78	—163.5
7/7/09	9 A.M.	charge		749			
	11.50	0	30	1.97	90.5	78.5	
	52	2	"	1.83			
	55	5	"	1.84			
	12.00 P.M.	10	"	1.56			
	.10	20	"	1.595			
	.20	30	"	1.61			
	.30	40	"	1.625			
	.50	60	"	1.627	97.2	80	
	1.10	80	"	1.645			
	.30	100	"	1.645			
	.50	120	"	1.65	96	81	
	2.10	140	"	1.65			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Idle	
7/7/09	2.30 P.M.	160	30	1.652			
	50	180		1.657	95.5	81.2	
	3.10	200		1.662			
	30	220		1.672			
	50	240		1.687	90.	81.2	
	4.10	260		1.697			
	30	280		1.72			
	50	300		1.74	90.5	81.2	
	5.10	320		1.75			
	30	340		1.80			
	50	360		1.802	90.2	80	
	6.10	380		1.83			
	30	400		1.835			
	50	420		1.84	80	.19	—7 hrs.
				Discharge	749		
7/7/09	P.M. 6.53	—	charge	1.59			
	55	0	30	1.49			
	57	2	"	1.42			
	7.00	5	"	1.39			
	05	10	"	1.36			
	15	20	"	1.337			
	25	30	"	1.32			
	35	40	"	1.30			
	55	60	"	1.27	89	78	

DATE	TIME	MIN	AMP	VOLTS 398	TEMP 398	TEMP Dell	
7/9/09	PM 6 15	50	30	1292			
	35	100	"	1225			
	55	120	"	122	85	77	
	9 15	140	"	1215			
	35	160	"	120			
	55	180	"	120	90.5	76	
	10 15	200	"	117			
	35	220	"	118			
	55	240	"	1165	91	76	
	11 15	260	"	115			
	35	280	"	112			
	55	300	"	119	92	75	
7/10	AM 12 15	320	"	105			
	35	340	"	101			
	55	360	"	100	92.2	75	-166.5
7/10	AM			change		250	
	1 05	0	30	149	92.2	75	
	.07	2	"	154.5			
	.10	5	"	155.7			
	.15	10	"	157.7			
	.25	20	"	160.2			
	.35	30	"	162			
	.45	40	"	164			
	2 05	60	"	165	92	75	

DATE	TIME	MIN	AMP	VOLTS 398	TEMP 398	TEMP Dell	
7/10/09	AM 2 25	80	30	166			
	.45	100	"	166			
	3 05	120	"	166	90.5	75	
	.25	140	"	166			
	.45	160	"	166			
	4 05	180	"	167	89	75	
	.25	200	"	167.5			
	.45	220	"	168			
	5 05	240	"	169.7	88.5	75	
	.25	260	"	171			
	.45	280	"	173			
	6 05	300	"	175	88	75	
	.25	320	"	177			
	.45	340	"	182			
	7 05	360	"	182.7	89	75.2	
	.25	380	"	184			
	45	400	"	185.2			
	8 05	420	"	185.7	89	75.7	-7 hrs
7/10/09	PM			change		±250	
	8 05	-	open	159.7			
	10	0	30	149			
	12	2	"	149.7			
	15	5	"	150.2			
	20	10	"	150.7			

DATE	TIME	AMP.	AMP.	VOLTS 395	TEMP. 395	TEMP. 395	
7/10/07	AM 8.30	120	3	124			
	40	80	"	133			
	50	90	"	130			
	9.10	60	"	127	88	73.2	
	30	80	"	1.205			
	50	100	"	1.235			
	10.10	120	"	1.225	88	74	
	30	140	"	1.215			
	50	160	"	1.207			
	11.10	180	"	1.20	87.7	74.7	
	30	200	"	1.194			
	50	220	"	1.18			
	12.10 PM	240	"	1.165	91	76	
	30	260	"	1.147			
	50	280	"	1.125			
	1.10	300	"	109	94	77	
	30	320	"	104			
	40	330	"	100.1	96	77	
	41	331	"	100			-165.5

DATE	TIME	AMP.	AMP.	VOLTS 395	TEMP. 395	TEMP. Cells.	
		July 12, 1909.					
		Cell #1 of 44 hours over Smoking.					
		The electrolyte was then poured out,					
		after first adding H_2O to proper height and					
		shaking all up. (See analysis of electrolyte					
		in back of book.)					
		Cell was then given six rinsings					
		with 2% KOH (500 cc), - being well shaken					
		each time, to remove sediment.					
		It was then filled to proper height					
		with 2% KOH containing 30 grams					
		of SiO_2 per liter, - taking just 1000 cc.					
		Will now run regularly on board:					
		Charge = 251.					
7/12/09	AM 12.20	0	30		07	Charge	
	50	30	"		83	81	
	PM 1.50	150	"		89.5	83	
	2.50	270	"		✓		
	4.50	390	"		95.7	86	
	6.50	510	"		97.7	86.2	
	8.50	630	"		100.35	87	
	10.50	750	"		104	86.2	
7/13	AM 12.50	876	"		102	87.7	
	1.20	900	"	1.797			-15 hrs.

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 396	TEMP 101.5	
7/12/67	AM			Discharge			#271
	1.20			155			
	.25	1		149			
	.27	2		147			
	.30	5		143			
	.35	10		137			
	.45	20		125			
	.55	30		122			
	2.00	60		1.31			
	.20	60		125	98	82.5	
	.45	85		122.2			
	3.00	105		124			
	.25	125		123.5	97.7	82	
	.45	145		122			
	4.05	160		121.5			
	.25	185		120.5	97.5	82.2	
	.45	200		120			
	5.05	225		119			
	.20	240		117.7	97	82	
	.45	265		115.5			
	6.05	285		115.5			
	.25	300		114.5	96.5	81.7	
	.45	320		112			
	7.05	340		110.5			
	.25	360		109	98	81	

DATE	TIME	MIN	AMP	VOLT 398	TEMP 398	TEMP 101.5	
7/13/67	AM 7.35	270	30	104.5			
	.45	280	"	103.5			
	.55	349	"	100			
	8.05	390	"	100			-19.5
	8.05	400	"	95			
	.15	410	"	89			
	.25	420	"	84	99.7	81.2	
	.35	430	"	70			
	.42	437	"	50	102	81.2	-21.5
				Charge #252			
7/13/67	AM 9.16	0	30		104	93	
	.40	30	"		104	93	
	11.40 AM	150	"		100	85	
	1.40	276	"		98.5	87.2	
	3.40	396	"		100.5	89	
	5.40	516	"		104.7	90.2	
	7.40	630	"		107	90.7	
	9.40	750	"		104	89.7	
	11.40 AM	876	"		103.5	87	
7/14	12.10	900	"	100			-15 lbs.
7/14/67	AM			Discharge			#252
	12.13	—		off 87			
	.14	0	30	149			
	.17	2	"	141			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 399	TEMP Cells	
7/14/49	12.20 PM	5	20	1365			
	.25	10	"	137			
	.30	20	"	137			
	.45	30	"	132.2			
	.55	40	"	132.5			
	1.15	50	"	129.2	104	87	
	.35	60	"	126.2			
	.55	70	"	124.2			
	2.15	80	"	122.5	103	87	
	.35	90	"	122.5			
	.55	100	"	122.5			
	3.15	110	"	119.7	103	87	
	.35	120	"	119			
	.55	130	"	115.5			
	4.15	140	"	114	102.2	86.5	
	.35	150	"	117			
	.55	160	"	115			
	5.15	170	"	114.5	102.5	86.2	
	.35	180	"	113.7			
	.55	190	"	111			
	6.15	200	"	108	105.4	86	
	.35	210	"	105			
	.55	220	"	103.7			
	7.15	230	"	101			-198
	.35	240	"	98			
	7.55	250	"	95.7			
	.15	260	"	93.7	109.5	81	
	.35	270	"	55	108.2	81	-215.7

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 399	TEMP 1025	
7/14/49			Charge				253
	AM 7.55	0	20		106	Charge	
	8.25	30	"		107	85.7	
	10.25	150	"		101.5	86	
	PM 2.25	270	"		99	86.7	
	2.25	390	"		100.5	88.5	
	4.25	510	"		104.5	90	
	6.15	630	"		102	88.7	
	8.25	750	"		104.7	88	
	10.25	870	"		106	88	
	.55	900	"	1797			-15 hrs.
					(103.3)		
7/14/49	P.M.			D-charge			#252
	10.45	—	20	1562	105	88	
	11.00	0	20	1477			
	.02	2	"	1412			
	.05	5	"	1388			
	.10	10	"	1361			
	.20	20	"	134			
	.30	30	"	131.7			
	.40	40	"	130			
7/15	AM 2.00	60	"	127.7	104.5	87	
	.20	80	"	125.7			
	.40	100	"	124			
	1.00	120	"	123	103.5	Plus	

DATE	TIME	MIN	AMP	VOLTS 39	TEMP 39	TEMP 10.5	
7/1/[illegible]	1.00			12.[illegible]			
	.40			121			
	2.00	120		120.2	122	116.5	
	.20			120			
	.40	220		119			
	3.00	240		118	124	116.5	
	.20	260		117			
	.40	280		116			
	4.00	300		114.5	124	115.5	
	.20	320		113.5			
	.40	340		111			
	5.00	360		110	124.5	115	
	.20	380		108.5			
	.30	390		104.2			
	.35	390		102.2			
	.38½	398½		100			-109.2
	.40	400		99.2			
	.50	410		97.2			
	6.00	420		81	127	114.5	
	.10	430		80			
	.11	431		80			-215.5

DATE	TIME	MIN	AMP	VOLTS 39	TEMP 39	TEMP 10.5	
7/15/[illegible]	AM	Discharge			254		
	6.55	0	20		102	84.5	
	7.55	60	"		103	84.5	
	8.55	120	"		101	85	
	9.55	180	"		100	85.5	
	10.55	240	"		98	86	
	11.55	300	"		97	86.5	
	12.55	360	"		98	87	
	1.55	420	"	1.755	99	87.5	-7 lwa.
		Discharge 254					
7/16/[illegible]	PM 1.58	—	open	1.56			
	2.00	0	90	1.47			
	02	2	"	1.405			
	05	5	"	1.38			
	10	10	"	1.36			
	20	20	"	1.335			
	30	30	"	1.315			
	40	40	"	1.30			
	3.00	60	"	1.265	99.5	88.5	
	20	80	"	1.257			
	40	100	"	123			
	4.00	120	"	122	100	88.5	
	20	140	"	1.217			
	40	160	"	120			

DATE	TIME	MIN.	[illegible]	VOLTS	TEMP.		
					95.5	83.5	81.5
7/14/09	PM 5.00	180	[illegible]	120	99	81.5	
	30	240	"	1.19			
	40	270	"	1.177			
	6.00	340	"	1.162	99.5	87.	
	.20	260	"	1.14			
	.40	280	"	1.12			
	.50	290	"	1.102			
	7.00	300	"	1.082	100	86	
	.03/[illegible]	[illegible]		1.076			
				[illegible]			
	.11	310	"	1.06			
	.21	320	"	1.036			
	.28	327	"	1.00	99.7	[illegible]	-162.5
7/15/09	PM.			[illegible]			
	7.50	0	30	1.162	98.7	86	
	.55	2	"	1.162			
	.57	5	"	1.22			
	8.00	10	"	1.147			
	.10	20	"	1.158			
	.20	30	"	1.160			
	.30	40	"	1.162			
	.50	60	"	1.163	98.5	84.7	

DATE	TIME	MIN.	[illegible]	VOLTS	TEMP.		
					97.8	97.8	86
7/14/09	PM 9.10	80	30	1.64			
	30	100	"	1.64			
	.50	120	"	1.635	97	84.7	
	10.10	140	"	1.635			
	.30	160	"	1.64			
	.50	180	"	1.64	97	86	
	11.10	200	"	1.64			
	30	220	"	1.65			
	.50	240	"	1.65.7	96.7	86	
7/15	AM 12.10	260	"	1.67			
	.30	280	"	1.68			
	.50	300	"	1.71.2	97	86.5	
	1.10	320	"	1.72			
	.30	340	"	1.74			
	.50	360	"	1.76	98.2	87	
	2.10	380	"	1.77.7			
	.30	400	"	1.75			
	.50	420	"	1.71	100	87.5	— 3 hrs.
							D. increase + 255
7/16	AM 2.55	—	[illegible]	1.56			
	.55	0	30	1.48			
	.57	2	"	1.43			
	3.00	5	"	1.38			
	.05	10	"	1.36			

DATE	TIME	MIN	AMPS	VOLTS	TEMP		
				394	394	102.5	
7/4/59	7.15	0	70	135.5			
	.20	5	"	131.5			
	.25	10	"	130			
	.30	15	"	127.7	101	87.5	
	4.15	20	"	125			
	.20	25	"	124			
	.25	30	"	122.5	100.5	87	
	5.15	40	"	121.5			
	.25	50	"	121			
	.35	60	"	120.5	100	86.2	
	.45	70	"	120			
	.55	80	"	119			
	6.15	90	"	118	100	86	
	7.15	100	"	117			
	.35	120	"	114			
	.55	130	"	110.5	95.5	84.7	
	8.05	140	"	108			
	15	150	"	106.5			
				turned off 1 minute			
	.26	330	"	104			
	.36	340	"	100.5			
	.37	341	"	100	99	84.7	170.5

DATE	TIME	MIN	AMPS	VOLTS	TEMP	
				394	394	Idle
				Charge 256		
7/6/59	AM 8.45	0	70	1.42	102.5	84.7
	.47	2	"	1.49		
	.50	5	"	1.51		
	.55	10	"	1.53		
	9.05	20	"	1.565		
	.15	30	"	1.59		
	.25	40	"	1.615		
	.45	60	"	1.63	101	85.5
	10.05	80	"	1.64		
	25	100	"	1.602		
	45	120	"	1.642	98.5	85
	11.05	140	"	1.64		
	25	160	"	1.64		
	45	180	"	1.64	96.5	85.5
	PM 12.05	200	"	1.645		
	25	220	"	1.655		
	45	240	"	1.65	96	86
	1.05	260	"	1.665		
	25	280	"	1.68		
	45	300	"	1.70	96.7	86.2
	2.05	320	"	1.72		
	25	340	"	1.742		
	45	360	"	1.767	98.5	86.5
	3.05	380	"	1.797		

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Bdle	
7/14/09	PM 325	400	30	1.407			
	45	420	"	1.407	95.5	85	-7 hrs
				Disch.			
7/14/09	PM 9.48	—	Off	1.57			
	50	0	0.0	1.497			
	51	1	"	1.417			
	55	5	"	1.39			
	4.00	10	"	1.367			
	10	20	"	1.337			
	20	30	"	1.317			
	30	40	"	130			
	50	60	"	127	94.5	84	
	5.10	80	"	1.255			
	30	100	"	124			
	50	120	"	122	94	83.7	
	6.10	140	"	1.215			
	30	160	"	1.207			
	50	180	"	120	93.5	83.2	
	7.10	200	"	1.187			
	30	220	"	118			
	50	240	"	1.167	92.7	81.5	
	8.10	260	"	1.155			
	30	280	"	1.122			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Bdle	
7/14/09	PM 8.47	290	30	1.12			
	50	300	"	1.102	94.7	81.2	
	9.00	310	"	1.087			
	10	320	"	1.065			
	17	327	"	1.06			
				Charge off 1 hr			
	21	330	"	1.05			
	31	340	"	1.022			
	39	348	"	1.00	94	82	-17.4
7/14/09	PM			Charge			5.7
	9.50	0	30	1.505	94.7	82	
	57	2	"	1.492			
	10.00	5	"	1.41			
	05	10	"	1.535			
	15	20	"	1.575			
	25	30	"	1.595			
	35	40	"	1.615			
	50	60	"	1.635	94.7	81	
	11.05	80	"	1.64			
	25	100	"	1.64			
	50	120	"	1.637	94	81.7	
7/17	12.15	140	"	1.637			
	35	160	"	1.637			

DATE	TIME	MIN	AMPS	VOLTS 39.6	TEMPS 224	TEMPS 196.5	
7/17/11	12 55 AM	10	30	164	94.5	83	
	1.15	20	"	164.2			
	.25	270	"	165			
	.55	240	"	165.7	93.2	83	
	2.15	260	"	166.2			
	.35	280	"	167.5			
	.55	300	"	169.5	92.5	83.2	
	3.15	320	"	171.5			
	.35	340	"	174			
	.55	360	"	177	94.2	83	
	4.15	380	"	179.5			
	.35	400	"	181			
	.55	420	"	182	95.2	82.5	-7 hrs.
				Discharge			287
7/17	4.50 AM	—	off	158			
	5.00	5	30	150			
	.02	2	"	142			
	.05	5	"	139.7			
	.15	10	"	137.5			
	.20	20	"	135.7			
	.30	30	"	133.5			
	.40	40	"	131.7			
	6.00	60	"	128	95.5	82	
	.20	80	"	126			

DATE	TIME	MIN	AMPS	VOLTS 39.6	TEMPS 224	TEMPS 196.5	
7/17/11	6.40 AM	100	30	124.2			
	7.00	120	"	123	95.5	82	
	.20	140	"	122			
	.40	160	"	121.5			
	8.00	180	"	120.5	98	82.5	
	20	200	"	120			
	40	220	"	119.7			
	9.00	240	"	118	97	83	
	20	260	"	116.5			
	40	280	"	114.5			
	10.00	300	"	111.5	99	83.5	
	10	310	"	110			
	20	320	"	108.2			
	30	330	"	106			
	40	340	"	104			
	50	350	"	101.5			
	57	357	"	100			-198.5
	11.00	360	"	98	100.2	83.7	
	10	370	"	94			
	20	380	"	87			
	30	390	"	74			
	37	397	"	50	104.7	84.2	-198.5

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Bolle	
7/19/09	Cell will now run in Endurance Section for 25 runs. See results in The Endurance Book.						
8/7/09	Cell has now had 25 Endurance Runs it has stood idle 6½ days and will now run as follows:-						
			Charge		283		
8/10	PM 3.15	0	30		on Charge		
	4.45	30	"		89.5	90.	
	5.45	150	"		97	97.5	
	6.45	270	"		99.5	87.5	
	9.45	390	"		97	87	
	11.45	510	"		100	88.	
	AM 1.45	630	"		102	88.5	
	3.45	750	"		102.5	89.2	
	5.45	870	"		105	89.5	
	6.15	900	"	122			-15 hrs
				Discharge # 283			
8/10/09	PM 6.18	—	0 min	1562			
	30	0	30	147	103.5	89.5	
	35	5	"	140			
	45	6	"	135			

DATE	TIME	TIME	TIME	VOLTS 398	TEMP 398	TEMP 100.5	
8/10/09	PM 6.56	16	30	1365			
	40	20	"	1342			
	50	30	"	1322			
	7.00	40	"	1302			
	20	60	"	128	103	89.	
	40	80	"	126			
	8.00	100	"	124			
	20	120	"	122	102	89	
	40	140	"	120			
	9.00	160	"	119.7			
	20	180	"	119.7	100.5	88	
	40	200	"	119.5			
	10.00	220	"	118			
	20	240	"	117.5	100	87	
	40	260	"	116.5			
	11.00	280	"	115.7			
	20	300	"	115.5	100.2	85.5	
	30	310	"	113			
	1.00	320	"	112			
	20	330	"	111			
8/11	12.00	340	"	110			
	10	347	"	109			
	20	350	"	108	100.2	84	
	30	355	"	107			
	40	360	"	107			
	45	365	"	100			-191.7
	50	370	"	97			
	1.00	380	"	94.7			
	10	390	"	84			
	20	400	"	69	103	82	
	25	405	"	50			-212.5

DATE	TIME	MIN	AMP	VOLTS 3PH	TEMP 3PH	TOTALS	
8/10/09	AM			Charge		204	
	2.00	0	30	on	Charge		
	.30		"	79	80.7		
	4.30	150	"	92.5	79		
	6.30	270	"	[illegible]	77		
	8.30	390	"	88	77		
	10.30 PM	510	"	92.4	77		
	12.30	.30	"	92.2	78.2		
	2.30	750	"	100	81		
	4.30	870	"	103.2	83.2		
	6.00	[illegible]	"	180			-15 hrs
							204
8/11/09	7 AM			Discharge			
	8.02	—		157			
	.04	0	30	141	100	83.1	
	.07	2	"	142			
	.10	5	"	1335			
	.14	10	"	132			
	.24	20	"	1325			
	.34	30	"	132			
	.44	40	"	131			
	6.04	60	"	128	103.5	84.2	
	.24	80	"	126			
	.44	100	"	1245			
	7.04	120	"	1235	103	85	

DATE	TIME	MIN	AMP	VOLTS 3PH	TEMP 3PH	TOTALS	
8/11/09	PM 7.24	140	30	122			
	.44	160	"	121	101		
	8.05	180	"	120	101	84	
	.25	200	"	120			
	.45	220	"	118.5			
	9.05	240	"	118	100	83.5	
	.25	260	"	116.5			
	.45	280	"	116			
	10.05	300	"	114.1	98	81.5	
	.25	320	"	112			
	.45	340	"	109.5			
	.55	350	"	107.2			
	11.25	360	"	104.5	97.2	79	
	.35	370	"	102			
	.37	377	"	100			-188.5
	.38	378	"	98			
	.39	379	"	95.7			
	.39	379.2	"	93.7			
	.45	400	"	92			
	.55	410	"	92.2			
12	12.06	421	"	50	101	79.7	-210.5
8/12	AM			Charge		245	
	12.40	0	30	on	Charge		
	1.10	30	"		92.5	77	
	3.10	150	"		92.5	77	
	5.10	270	"		88.5	77	
	7.10	390	"		88.5	77	
	9.10	510	"		92.5	77	

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP. 398	TEMP. Delle	
	AM						
8/12/09	11.10	630	30		93	77.7	
	PM						
	1.10	750	"		92.5	78.5	
	3.10	870	"		75	81	
	.40	900	"	101.5			-15 hrs.
8/13/09	PM		Discharge # 284				
	3.43	—	fin	107.7			
	.45	0	30	158	99	81.5	
	.47	2	"	142			
	.50	5	"	109			
	.55	10	"	137			
	4.00	20	"	134.5			
	.15	30	"	132			
	.25	40	"	131			
	.45	60	"	128	98.5	82	
	5.05	80	"	126			
	.25	100	"	124			
	.45	120	"	123	96.5	81.5	
	6.05	140	"	122			
	.25	160	"	121			
	.45	180	"	120.5	96	81	
	7.05	200	"	120			
	.25	220	"	119			
	.45	240	"	118	94	80	
	8.05	260	"	116.5			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMPS 398	TEMPS Delle	
8/13/09	PM 8.25	280	30	115.5			
	.45	300	"	113	94	78.5	
	9.05	320	"	112			
	.15	330	"	111			
	.25	340	"	109.5			
	.35	350	"	109			
	.45	360	"	104	96	76	
	.55	370	"	102			
	10.01	376	"	100			-188.
	10.05	380	"	98			
	.15	390	"	92			
				Current off 1 min			
	.26	400	"	88			
				Current off 1 min			
	.37	410	"	78			
	.41	420	"	58			
	.48	430	"	58			
	.54	440			100	78	-210.5
8/12	pm		Charge		24		
	11.30	0	30		92.5	78.5	
	am						
8/13	12.30	60	-		96	79.5	
	1.30	120	-		93.7	78	
	2.30	180	-		92	78	
	3.30	240	"		90.5	77.7	
	4.30	300	"		89.5	80	

DATE	TIME	MIN	AMP	VOLTS	TEMP. 398	398	1044
8/13/09	AM 6:30	363	30		89.0	77.5	
	6:30	420	"	179	90	77.5	– 7 hrs
				Discharge			216
8/13	AM 2:33	–		157			
	.35	0	50	149			
	.37	2	"	141			
	.40	5	"	132.2			
	.45	10	"	124.2			
	.55	20	"	132.7			
	3:05	30	"	131.7			
	.15	40	"	130			
	.25	50	"	127	90.7	77.7	
	.35	60	"	125			
	3:45	100	"	122.5			
	.55	120	"	122	91.2	78.2	
	.55	140	"	121.5			
	4:15	160	"	120.5			
	.35	180	"	119.7	92.2	78.5	
	.55	200	"	118.7			
	5:15	220	"	117			
	.35	240	"	116.2	93.5	78.2	
	.55	260	"	114.2			
	6:15	280	"	111			

DATE	TIME	MIN	AMP	VOLTS 398	TEMP 398	1044
8/13/09	AM.			Charge off 2 min		
	11:27	270	30	108		
				Charge off 1 min		
	.38	300	"	106		
	.48	310	"	102.7		
	12:43/6/2		"	100	92.7	78.2 – 158.2
8/13/09	AM.			Charge off 2.87		
	12:00	0	50	140.2	93.5	78.2
	.02	2	"	150.5		
	.05	5	"	150.5		
	.10	10	"	150.7		
	.20	20	"	150.5		
	.30	30	"	150.5		
	.40	40	"	162		
	1:00	60	"	163.7	90.5	77
	.20	80	"	164.5		
	.40	100	"	164.5		
	2:00	120	"	164.2	90.2	77.7
	.20	140	"	164.5		
	.40	160	"	164.5		
	3:00	180	"	164.7	91.5	78.5
	.30	200	"	164		

DATE	TIME	MIN	AMPS	VOLTS 398	TEMPS 398	1066	
8/13/09	PM 3.40	220	30	166			
	4.00	240	"	1672	89	77	
	.20	260	"	169			
	.40	280	"	1765			
	5.00	300	"	1775	912	80	
	.20	320	"	1785			
	.40	340	"	178			
	6.00	360	"	180	927	812	
	.20	380	"	180			
	.40	400	"	181			
	7.00	420	"	181	94	81	-7 hrs
				Discharge 287			
8/13/09	PM 1.03	—	Equil	158			
	05	0	80	148			
	07	2	"	142			
	10	5	"	1395			
	15	10	"	137			
	25	20	"	1345			
	35	30	"	132			
	45	40	"	130			
	8 05	60	"	126	96	825	
	25	80	"	126			
	45	100	"	124			
	9 05	120	"	1237	96	83	

DATE	TIME	MIN	AMPS	VOLTS 398	TEMPS 398	1066	
8/13/09	PM 7.25	140	30	122			
	45	160	"	1215			
	1005	180	"	120	96	83	
	25	200	"	119			
	45	220	"	1182			
	11.05	240	"	117	97	83	
	.25	260	"	1157			
	45	280	"	112.5			
	.55	290	"	111			
8/14	AM 12.05	300	"	109	98	82.5	
				Current off 2 min			
	.17	310	"	107.5			
	.27	320	"	107.2			
	.37	330	"	102			
	.47	335½	"	100	99.5	82.5	-167.7
				Charge 288			
8/14	AM 12.55	0	30	143	99	82.5	
	57	2	"	150			
	1.00	5	"	151.5			
	.05	10	"	153.7			
	.15	20	"	157			
	.25	30	"	158.5			
	.35	40	"	160.2			

DATE	TIME	MIN	AMPS	VOLTS 391	TEMPS 391	1061	
8/14	AM 7.11	60	30	1672	98	82.2	
	2.15	80	"	1673			
	.30	100	"	1673			
	.45	120	"	1672	95	82	
	3.00	140	"	1673			
	.15	160	"	1671			
	.30	180	"	1674	92	81.2	
	4.45	200	"	1675			
	.30	220	"	1676			
	.45	240	"	1677	92	80.7	
	5.45	260	"	1677			
	.30	280	"	1677.2			
	.45	300	"	1677.2	91.5	80	
	6.45	320	"	1677.2			
	.30	340	"	1677			
	.45	360	"	1677			
	7.30	380	"	1677	90	79.2	
	.45	400	"	1677			
	8.30	440	"	1677.5			
	.45	460	"	1677.5	94	79.2	-7 hrs
				Discharge		258	
8/14	AM 7.11	—	gr	1577			
	8.00	0	30	1650			
	102	2	"	1641			
	105	5	"	1592			

DATE	TIME	MIN	AMPS	VOLTS 391	398	TEMPS	
8/14/09	AM 8.10	10	30	1372			
	.20	20	"	1345			
	.30	30	"	1322			
	.40	40	"	1301			
	9.00	60	"	1278	94	79.2	
	.20	80	"	1256			
	.40	100	"	1242			
	10.00	120	"	1223	94.2	79.2	
	.20	140	"	1222			
	.40	160	"	1214			
	11.00	180	"	1205	95	79	
	.20	200	"	1195			
	.40	220	"	118			
	PM 12.00	240	"	117	95	79	
	10	260	"	1155			
	40	280	"	1135			
	50	290	"	1100			
	100	300	"	108	95	79	
				current off		1 min	
	11.	310	"	106			
	.21	330	"	1057			
	31	330	"	100	96	79	-165.

Stood idle 5½ hours over Saturday and Sunday.

DATE	TIME	MIN	AMP.	VOLTS 398	TEMP 398	Idle	
8/16/09	Cell will now run in the Endurance Section for 18 runs. See results in the Endurance Book						
	Cell has now had 18 Endurance Runs and will now run as follows:-						
			Charge 30.7				
8/27/09	AM 4.55	0	30	1.23	81.2		Charged in Endurance
	5.55	60	"	1.17	81.2		
	6.55	120	"	1.13	81.2		
	7.55	180	"	1.10	81.7		
	8.55	240	"	1.08	82.		
	9.55	300	"	1.05	82.7		
	10.55	360	"	1.05	83		
	11.55	420	"	1.055	83.5		
	PM 12.55	480	"	1.05	84.5		
	1.55	540	"	1.04	85.5		
	2.55	600	"	1.06	87		
	3.55	660	"	1.055	87.2		
	4.55	720	"	1.087	88.2		
	5.55	780	"	1.092	88.5		
	6.55	840	"	1.08	88.5		
	7.55	900	"	1.085	"		Charged in Poly Formed.

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	IDLE
			Discharge #307			
8/27/09	PM 7.58	–	40	152		
	8.00	0	30	142	107	88.5
	02	2	"	1395		
	05	5	"	137		
	10	10	"	1355		
	20	20	"	133		
	30	30	"	132		
	40	40	"	130		
	9.00	60	"	1265	106	88.5
	20	80	"	1257		
	40	100	"	1245		
	10.00	120	"	123	106	88
	20	140	"	122		
	40	160	"	1215		
	11.00	180	"	120	106	87.5
	20	200	"	1195		
	40	220	"	1187		
8/28/09	AM 12.00	240	"	1177	106	87
	.20	260	"	1164		
	.40	280	"	1152		
	1.00	300	"	1124	106	86
	20	320	"	110		
	40	340	"	1042		
	50	350	"	1018		

DATE	TIME	MINUTES	FOLTE	TEMP 358	TEMP 358	adds	
8/28/07	9.17 A.M.	1.63	33½	30	1.00		-176.7
	2.00	360	"		.972	1.06	8½
	.10	370	"		.907		
	.20	380	"		.872		
	.28	388	"		.830	1.07	8½ -194.

Stood idle 47 hours over Saturday and Sunday

DATE	TIME	MINUTES	FOLTE	TEMP 358	TEMP 358	adds	
			Change	358			
8/30/07	9.11 A.M.	1.24	0	36	1.00	1.91	
	1.00	90	"		.855	83	
	3.00	150	"		.87	81	
	5.00	270	"		.87	80	
	7.00	330	"		.90	78	
	9.00	510	"		.902	.762	
	11.00	630	"		.91	.757	
	1.00 P.M.	750	"		.9225	.7665	
	3.00	870	"		1.02	7.85	-15 hrs.
	3.30	900	"		1.80		

DATE	TIME	MINUTES	FOLTE	TEMP 358	TEMP 358	adds	
8/30/07	P.M.	Discharge #308					
	3.33	-			1.57		
	3.35	0		30	1.48	1.022	79.
	.37	2		"	1.42		
	.40	5		"	1.392		
	.45	10		"	1.377		
	.55	20		"	1.345		
	4.05	30		"	1.34		
	.15	40		"	1.32		
	.35	60		"	1.29	1.045	80
	.55	80		"	1.265		
	5.15	100		"	1.255		
	.35	120		"	1.24	1.02	80.7
	.55	140		"	1.224		
	6.15	160		"	1.217		
	.35	180		"	1.205	1.002	80.7
	.55	200		"	1.191		
	7.15	220		"	1.182		
	.35	240		"	1.175	.88	81
	.55	260		"	1.16		
	8.15	280		"	1.15		
	.35	300		"	1.13	.962	81
	.55	320		"	1.105		
	9.15	340		"	1.07		
	.35	360		"	1.01	.977	80

DATE	TIME	MIN	AMPS	VOLTS	TEMP° 398	TEMP° 398	TABLE	
8/30/09	PM 9	28	360	230	1.00			-1811
	45	370	-	.964				
	50	380	-	.926				
	100	390	-	.86				
	15	400	-	.737				
	30	410	-	.73				
	45	411	-	.70				-2055
	30	420	-		100	79.2		
		Change #309						
8/30/09	PM 1130	0	30	on change				
8/31/09	AM 1500	30	"		102.5	75		
	200	150	"		94	77		
	400	370	"		86	77		
	600	390	"		86.5	75		
	800	510	"		90	75		
	1000	630	"		92.5	75.5		
	PM 1300	750	"		97.5	77.2		
	200	870	"		98	78.N		
	30	900	"	1.812				-15 low

DATE	TIME	MIN	AMPS	VOLTS	TEMP° 398	TEMP° 398	TABLE	
8/31/09	PM			Recalibrate				#309
	2.33	-		1.572	92.5	78.2		
	30	0	30	1.43				
	1.37	2	-	1.447				
	40	5	-	1.382				
	45	10	-	1.365				
	50	20	-	1.337				
	3.00	30	-	1.317				
	15	40	-	1.30				
	30	60	-	1.27	95.2	78.		
	50	80	-	1.257				
	4.15	100	-	1.24				
	30	120	-	1.22	92.	78.		
	50	140	-	1.212				
	5.15	160	-	1.20				
	30	180	-	1.197	90.7	77.		
	50	200	-	1.187				
	6.15	220	-	1.18				
	30	240	-	1.17	91.2	76.7		
	45	260	-	1.167				
	7.15	280	-	1.157				
	30	300	-	1.13	92.5	76.5		
	50	320	-	1.107				
	8.15	340	-	1.067				
	30	360	-	1.01	94	77		

DATE	TIME	MIN	AMP	VOLTS	TEMP 378	398	TITLE
8/31/09	P.M. 8.30	361½	30	1.00			-1.807
	.45	370	-	.97			
	.55	380	-	.97			
	9.00	390	-	.982			
		Current off 2 mins.					
	.17	400	-	.97			
	.22	404½	-	.40	97	77	-2.027
		Charge #310					
8/31/09	P.M. 10.45	0	30		92	77	
	11.15	60	-		96	78	
9/1/09	A.M. 12.15	120	-		94.5	77.5	
	1.15	180	-		93	77.5	
	2.15	240	-		93	78	
	3.15	300	-		92	78.2	
	4.15	360	-		93	79	
	5.15	420	-	1.165	94	78.2	-7.04
9/1/09	A.M. 5.18	1	Discharge #310	1.565			
	.20	0	30	1.48			
	.22	2	-	1.40			
	.24	5	-	1.38			

DATE	TIME	MIN	AMP	VOLTS	TEMP 378	398	TITLE
9/1/09	A.M. 5.30	10	30	1.36			
	.40	20	-	1.33			
	.55	30	-	1.317			
	6.00	40	-	1.30			
	.20	60	-	1.28	79.5	79.5	
	.40	80	-	1.245			
	7.00	100	-	1.237			
	20	120	-	1.222	79	79	
	40	140	-	1.22			
	8.00	160	-	1.202			
	20	180	-	1.197	93.2	77.7	
	40	200	-	1.182			
	9.00	220	-	1.177			
	20	240	-	1.162	92	77.2	
	40	260	-	1.142			
	10.00	280	-	1.105			
	20	300	-	1.104	93.7	77.	
		Current off 2 mins					
	32½	310½	-	1.02			
	35	313	-	1.00			-1.565
9/1/09	A.M.	Charge #311					
	1.05	0	30	1.57	94.5	77.	
	.07	2	-	1.55			
	.10	5	-	1.562			

DATE	TIME	MIN	AMP	VOLTS 398	TEMP 398	TEMP IDLE	
9/11/09	AM 11.15	10	30	1.38			
	25	20	"	1.63			
	35	30	"	1.61			
	45	40	"	1.62			
	PM 12.00	61	"	1.637	94.5	78.7	
	26	81	"	1.64			
	45	100	"	1.642			
	1.05	120	"	1.64	94	80	
	25	140	"	1.64			
	45	160	"	1.642			
	2.05	180	"	1.65	93.2	80.5	
	25	200	"	1.655			
	45	220	"	1.665			
	3.05	240	"	1.675	94.2	81.	
	25	260	"	1.69			
	45	280	"	1.702			
	4.05	300	"	1.72	99	81.2	
	25	320	"	1.742			
	45	340	"	1.775			
	5.05	360	"	1.79	99	81.2	
	25	380	"	1.80			
	45	400	"	1.80			
	6.05	420	"	1.812	97	80.7	-7 hrs.

DATE	TIME	MIN	AMP	VOLTS 398	TEMP 398	TEMP IDLE	
9/11/09	Discharge #311						
	PM 6.00	0	0/2	1.277			
	10	0	30	1.482			
	12	2	"	1.42			
	14	4	"	1.372			
	20	10	"	1.367			
	30	20	"	1.344			
	40	30	"	1.322			
	50	40	"	1.302			
	7.10	60	"	1.28	94	80.2	
	30	80	"	1.257			
	40	100	"	1.237			
	8.10	120	"	1.227	93.5	79.7	
	30	140	"	1.22			
	40	160	"	1.212			
	9.10	180	"	1.20	91.2	78.7	
	30	200	"	1.19			
	40	220	"	1.17			
	10.00	240	"	1.162	89.7	77.7	
	30	260	"	1.142			
	40	280	"	1.11			
	11.10	300	"	1.06	91.2	76.7	
	30	320	"	1.022			
	12.9	319	"	1.00	92.2	76.5	-15 9.5

DATE	TIME	MIN	AMPS	VOLTS	TEMPS 398	TEMPS 398	TEMPS IDLE	
7/2/09	AM			Charge			312	
	12.24	0	30	1.22	78.2	76.2		
	.27	2	"	1.55				
	.30	5	"	1.72				
	.34	10	"	1.65				
	.44	20	"	1.65				
	.54	30	"	1.67				
	1.04	40	"	1.65				
	.24	60	"	1.65	77	76		
	.44	80	"	1.66				
	2.04	100	"	1.66				
	15	120	"	1.65	78	76		
	45	140	"	1.66				
	3.05	160	"	1.65				
	15	180	"	1.66	77	75		
	45	200	"	1.65				
	4.05	220	"	1.65				
	15	240	"	1.65	77	75		
	45	260	"	1.71				
	5.05	280	"	1.72				
	15	300	"	1.76	81.5	75		
	45	320	"	1.75				
	6.05	340	"	1.82				
	15	360	"	1.82	81.5	75		
	45	380	"	1.83				

DATE	TIME	MIN	AMPS	VOLTS	TEMP 398	TEMP 398	TEMP IDLE	
7/2/09	AM							
	1.05	400	30	1.833				
	15	420	"	1.84	70	74.5		-7 hrs
				Discharge			312	
7/2/09	AM							
	1.16	—	40	158				
	.30	0	30	150				
	32	2	"	142				
	35	5	"	140				
	40	10	"	136				
	50	20	"	134				
	2.00	30	"	1.32				
	10	45	"	[illegible]				
	.30	60	"	1.27	89.2	74		
	50	80	"	1.25				
	3.10	100	"	1.237				
	30	120	"	1.225	88	73.7		
	50	140	"	1.217				
	4.10	160	"	1.205				
	.30	180	"	1.20	89	73.7		
	50	200	"	1.182				
	5.10	220	"	1.177				
	.30	240	"	1.162	91	73.7		
	50	260	"	1.14				
	6.10	280	"	1.10				
	20	290	"	1.08				

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP 1026	
9/2/09	PM 1230	310	30	105	92.2	74.5	
	40	310	5	102			-158
	49	319		98.7			
	100	320	-	98.7			
	10	340	-	90.5			
	20	350	-	88.5			
	30	360	-	78.7	96.2	76	
	40	370	-	88.2			
	44	374	-	80	98.2		-187
9/2/09	Connected in Engineering Section to get 47 mins.						

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP 1026	
			Charge = 360				
10/7/09	PM 935	0	30	on charge			
	805	30	"		96	76.2	
	505	150	"		96	86.7	
	705	270	"		96	86	
	905	390	"		97	85	
	1105	510	"		99.9	83.	
10/8/09	AM 105	630	"		100.2	81.2	
	305	760	"		101.4	81.9	
	505	870	"		99.	81.9	
	30	900	"	122			-15 hrs
			Discharge*	360			
10/8/09	AM 538	—	open	135	97.	79	
	40	0	30	145	97.	79	
	42	2	"	142			
	45	5	"	135			
	50	10	"	126			
	600	20	"	124			
	10	30	"	132			
	20	40	"	120			
	40	60	"		96.	79.	
	700	80	"	125.7			
	20	100	"	124			
	40	120	"	122	97.2	79.2	

DATE	TIME	MIN	AMP	VOLT 3PD	2 3PD	TEMPS. cell	
10/8/09	8:10 A.M.	150	30	1.12			
	20	160	"	1.20			
	40	180	"	1.20	97	80	
	9:00	200	"	1.19			
	20	220	"	1.18			
	40	240	"	1.17	97.2	80	
	10:00	260	"	1.16			
	20	280	"	1.14			
	40	300	"	1.12	100	81	
	11:00	320	"	1.09			
	20	340	"	1.03			
	40	360	"	1.00			-174.
	40	360	"	.917	1.032	81.5	
	50	370	"	.82			
	12:00 PM	380	"	.632			
	10	390	"	.00			-192.
	27	407	"		1.11	81.7	
10/8/09	7:17		Change #361				
	130	0	30	On Charge			
	200	30	"		1.04	83	
	400	150	"		1.01	85.5	
	600	270	"		1.00	83	

DATE	TIME	MIN	AMP	VOLTS 3PD	TEMPS 3PD	TABLE	
10/8/09	800	390	30		85	81	
	1000 AM	510	"		88	80	
10/9/09	1200	630	"		92	80	
	200	750	"		95	77.5	
	400	870	"		98.2	76.7	
	30	900	"	1.25			-15 hrs
		Discharge #361					
10/9/09	AM 438	—	open	1.60	99		
	40	0	30	1.502	97	74.5	
	42	2	"	1.437			
	45	5	"	1.345			
	50	10	"	1.37			
	500	20		1.24			
	10	30		1.32			
	20	40		1.30			
	40	60		1.28	96	76	
	600	80		1.26			
	20	100		1.24			
	40	120		1.222	96	76	
	700	140		1.215			
	20	160		1.205			
	40	180		1.20	88		
	800	200		1.17			
	20	220		1.18			

DATE	TIME	MIN.	AMPS	VOLTS 378	TEMP. 378	TEMP. IBLE	
10/9/09	AM 240	240	30	1.65	92	75	
	300	260	"	1.36			
	20	280	"	1.47			
	40	300	"	1.50	95	77	
	1.00	320	"	1.58			
	.20	340	"	1.017			
	.30	343	"	1.00			-171.5
	.40	360	"	.892	97	78	
	50	370		775			
	11 00	380	"	587			
	.02	382	"	30.			-191.
	.36	416	"		1.00	80.	
	Stood idle 37 hours over Saturday and Sunday						
	Charge # 362						
10/11/09	AM. 12.25	0	300th Charge				
	.55	30	"		825	79	
	2.55	150	"		87	86	
	4.55	270	"		88	86	
	6.55	390	"				
	8.55	510	"		937	77	
	10.55	630	"		967	78	
	PM. 12.55	750	"		933	78	

DATE	TIME	MIN	AMPS	VOLTS 378	TEMPS 378	TEMPS IBLE	
10/11/09	PM. 2.25	870	30		92.2	78	
	3.25	900	"	1.537			-15 hrs
	Discharge						
10/11/09	PM 3.28	—	0/4	1.58	94.7	79	
	30	0	30	1.489			
	32	2	"	1.42			
	35	5	"	1.392			
	40	10	"	1.372			
	50	20	"	1.34			
	4.00	30	"	1.315			
	10	40	"	1.31			
	30	60	"	1.26	92	77	
	50	80	"	1.255			
	5.10	100	"	1.232			
	30	120	"	1.224	90.5	78	
	50	140	"	1.215			
	6.10	160	"	1.202			
	30	180	"	1.20	94	78	
	50	200	"	1.19			
	7.10	220	"	1.18			
	30	240	"	1.122	95	78	
	50	260	"	1.16			
	8.10	280	"	1.145			
	30	300	"	1.132	99		

DATE	TIME	MIN	AMP	VOLT	TEMP 398	TEMP 392	TEMP IDLE	
10/11/09	PM 8.50	270	30	110				
	9.10	240	"	105				
	20	300	"	1055				
	31	9.51	"	1055				
	50	9.20	"	945	1015	98		-175.5
	40	270	"	80				
	50	280	"	65				
	56	285	"	50	995	965		-193.
	P.M.	Charge 11			363			
10/11/09	11.15	0	30		98	81		
10/12/09	PM 12.15	60	"		97	81		
	1.15	120	"		95	80.5		
	2.15	180	"		93	80		
	3.15	240	"		93	79.5		
	4.15	300	"		92.5	79.5		
	5.15	360	"		92	79.5		
	6.15	420	"	120				-7hio.
		Discharge 11						
10/12/09	AM 6.17	—	0	1.59				
	20	0	30	146	925	79		
	22	2		1402				
	25	5	"	137				
	30	10		135				

DATE	TIME	MIN	AMP	VOLT	TEMPS 398	TEMPS 392	TEMPS IDLE	
10/12/09	A.M.							
	6.40	20	30	1227				
	50	30	"	1209				
	7.00	40	"	1192				
	20	60	"	1165	945	792		
	40	80	"	1145				
	8.00	100	"	1135				
	20	120	"	1122	947	78		
	40	140	"	1212				
	9.00	160	"	1120				
	20	180	"	1177	947	78		
	40	200	"	1175				
	10.00	220	"	1172				
	20	240	"	1172	947	78		
	40	260	"	1132				
	11.00	280	"	1044				
	20	290	"	1017				
	30	298	"	1.0	967	78		-1465
	PM	Charge 364						
10/12/09	12.25	0	30	1.537	922	78		
	27	2	"	1.58				
	30	5	"	1.595				

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	Inside	
	PM						
10/12/09	12.35	10	30	1.677			
	45	20	"	1.612			
	.55	30	"	1.615			
	1.05	40	"	1.63			
	.25	60	"	1.64	95	78	
	45	80	"	1.65			
	2.05	100	"	1.653			
	.25	120	"	1.66	92	78	
	45	140	"	1.66			
	3.05	160	"	1.665			
	25	180	"	1.677	89.5	78	
	45	200	"	1.687			
	4.05	220	"	1.69			
	25	240	"	1.71	87	77	
	45	260		1.742			
	5.05	280		1.76			
	25	300		1.80	87.5	76	
	45	320		1.877			
	6.05	340		1.937			
	25	360		1.84	89	76	
	45	380		1.845			
	7.05	400		1.855			
	25	420		1.857	90	74	-7hrs

DATE	TIME	MIN	HITS	VOLTS 398	TEMP 398		
				Discharge			
10/12/09	PM 7.25	—	open	1.895			
	30	0	30	1.893			
	35	2	"	1.915			
	35	5	"	1.895			
	40	10	"	137			
	50	20	"	134			
	8.00	30	"	102			
	10.	40	"	130			
	30	60	"	1.273	90	75	
	50	80	"	126			
	9.10	100	"	120			
	30	120	"	1.222	89	73	
	50	140	"	1.217			
	10.10	160	"	121			
	30	180	"	120	88	73	
	50	200	"	1.125			
	11.10	220	"	1.172			
	30	240	"	1.165	90.2	74.5	
	50	260	"	1.122			
10/13/09	AM 12.10	280	"	1.065			
	30	300		1.0	94	76.2	-150.

DATE	TIME	MIN	AMP	VOLTS 398	TEMPS 398	TEMPS Kelle	
10/13/09	[illegible]			Change	365		
	210	0	30	175			
		12	2	160			
		15	5	160			
		20	10	161			
		30	20	163			
		40	20	1665			
		50	40	1665			
	410	60		1665	897	792	
		30	30	165			
		50	100	166			
	510	120		1665	885	792	
		30	140	1665			
		50	160	169			
	610	170		165	865	797	
		30	200	165			
		50	220	1667			
	710	240		170	78	797	
		30	260	172			
		50	280	174			
	810	300		1.707	87	78	
		30	320	1.812			
		50	340	1.822			
	910	360		1.822	91	769	
		30	380	1.837			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Kelle	
10/13/09	7.10	400	30	1.84			
	0.10	400		1.803	802	707	-7 hrs
10/13/09	7.11	Discharge					
	0.13	-	5 min	1.745			
	.15	0	30	1.58			
	.17	2		1.607			
	.20	5		1.377			
	.25	10		1.365			
	.30	20		1.325			
	.35	30		1.30			
	.45	40		1.285			
	1.15	60		1.265	887	74	
	.50	80		1.235			
	.55	100		1.22			
	2.15	120		1.207	88	745	
	.30	140		1.20			
	.45	160		1.7			
	1.15	180		1.18	871	74	
	.30	200		1.175			
	.45	220		1.165			
	3.15	240		1.157	86	75	
	.45	260		1.107			
	.55	280		1.092			-1465
	3.13	293		1.03			Water entered mine found & sealed hole.
	3.15	300		.96	927	75	
	.45	305		.96			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP IDLE	
	Current off 5 minutes						
10/12/09	3.30	310	30	.927			
	.40	320	"	.957			
	.50	330	"	.932			
	4.00	340	"	.161			
	.03	343	"	.150	96.	75.	-171.5
Cell will now run in the Endurance-Section for 47 runs. See results in the Endurance Book.							
11/15/09	Cell has now had 47 Endurance-Runs, it has stood idle 14½ days and will now run as follows						
	Am.		Charge	+13			
11/29/09	12.45	0	30				
	1.15	30	"		81.5	77.5	
	3.15	150	"		85	77	
	5.15	270	"		90	80.7	
	7.15	390	"		94	84.5	
	9.15	510	"		93	80.	

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Idle	
11/29/09	A.M. 1.45	630	30		94.7	78	
	1.55	640	"		94.5	77	
	3.45	770	"		94.5	76.5	
	4.45	830	"	1.317			-15 hrs
11/29/09	P.M.		Discharge				
	3.48	—	for	1.577	96.	76.5	
	50	0	30	1.49			
	52	2	"	1.41			
	55	5	"	1.387			
	4.00	10	"	1.362			
	10	20	"	1.337			
	20	30	"	1.317			
	30	40	"	1.302			
	50	60	"	1.275	95.5	76	
	5.10	80	"	1.252			
	30	100	"	1.237			
	50	120	"	1.222	93.7	76	
	6.10	140	"	1.215			
	30	160	"	1.202			
	50	180	"	1.195	92.5	77	
	7.10	200	"	1.185			
	30	220	"	1.177			
	50	240	"	1.170	95	76	
	8.10	260	"	1.165			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP 1015	
11/29/09	PM 800	120	30	113			
	50	300	"	110.2	96	76	
	910	330	"	106			
	20	330	"	102			
	30	340	"	100			-170.
	40	350	"	94	0		
	50	360	"	88	88	77	
	1000	370	"	68			
	01	371	"	50	105	78	-188.5.
				Charge			
11/30/09	PM 12.20	0	30				
	50	30	"		102	75	
	2.50	100	"		92.5	78	
	4.50	270	"		77.0	74.5	note: sound that week was most in fuzzy wire.
	6.50	390	"		85	72.5	
	8.50	510	"				
		AM 840		cell was taken off charge and they discharged to 1.50V without discharge readings.			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP 1015	
11/30/09	PM			Charge 414			
	300	30					
	30	30	-		Gr Charge		
	5.30	60	-		90	74.5	
	7.30	270	-		89	74.5	
	9.30	390	-		87	75	
	11.30	510	-		91	76	
12/1/09	PM 1.30	630	-		94	79.	
	3.30	750	-		96	79	
	5.30	870	-		94.5	78	
	6.00	900	-	122.5			-15 hrs
				Discharge			
12/1/09	AM 100	-	am	1.50	95	77.7	
	10	0	50	148			
	12	2	-	140			
	15	5	-	135			
	20	10	-	1362			
	30	20	-	1335			
	40	30	-	1315			
	50	40	-	missed			
	1 10	60	-	1265	94	77.2	
	30	80	-	1252			
	50	100	-	1235			
	840	140		122.			

Date	Time	Min	Amps	Volts 398	Temps 398	Temps Idle	
12/1/09	8.30	160	30	121			
	8.40	160		120			
	9.10	150		120	915	767	
	.30	500		118.2			
	.50	520		117.5			
	10.10	540		116.5	92	75	
	.30	560		115			
	.50	580		114			
	11.10	30		112	935	75	
	.30	320		110			
	.50	340		106			
	PM 12.00	355		100			-177.5
	.10	360		98.2	962	767	
	.30	370		95.5			
	.50	380		88.5			
	40	390		1545			
	41	391		50	104	76	-195.5
12/1/09	PM	Charge 115					
	2.15	0	30	On charge			
	45	30			101	772	
	4.45	150			957	775	
	6.45	270			905	76	
	8.45	390			91	76	
	10.45	570			90	76	

Date	Time	Min	Amps	Volts 398	Temps 398	Temps Idle	
12/2/09	PM						
	12.45	630	30		91	77	
	2.45	750			895	76	
	4.45	870			882	74	
	6.15	960		125			-154
				Discharge			1.15
12/2/09	PM						
	5.12			1.585	88	73	
	20	0	30	149			
	22	2		142			
	25	5		135			
	30	10		1365			
	40	20		1325			
	50	30		1315			
	6.00	40		130			
	20	60		1265	87	73	
	40	80		1242			
	7.00	100		1225			
	20	120		1215	865	73	
	40	140		121			
	8.00	160		120			
	.33	193		118.2			
	.40	200		118.0			
	9.00	220		117.5			
	21	241		116.2	872	73	
	40	260		115.5			

Date	Time	Min	Amp	Volts 398	Temps. 398	Temps. Idle	
12/2/09	AM 10.00	280	30	114			
	30	300	"	112	90	725	
	40	320	"	109			
	11.00	340	"	1045			
	11	357	"	100			
	20	360	"	94	935	727	-175.5
	30	370	"	85			
	40	380	"	685			
	46	386	"	50			-193.
	PM 12.22				925	735	
12/2/09	PM		Charge	1116			
	1.40	0	30		87	745	
	2.40	60	"		88	745	
	3.40	120	"		872	745	
	4.40	180	"		87	745	
	5.40	240	"		865	747	
	6.40	300	"		87	745	
	7.40	360	"		875	75	
	8.40	420	"	1313			-7hrs
			Discharge				
12/3/09	PM 843	—	40m	158			
	45	D	30	148	81	755	
	47	I	"	141			

Date	Time	Min	Amp	Volts 398	Temps 398	Temps Idle	
12/3/09	PM 850	0	30	138			
	55	10	"	134			
	905	20	"	133			
	15	30	"	131			
	25	40	"	1255			
	45	60	"	1207	91	76	
	1005	80	"	125			
	25	100	"	1225			
	45	120	"	122	88	76	
	1105	140	"	121			
	25	160	"	120			
	45	180	"	1175	89	75	
12/2/09	AM 12.05	200	"	1175			
	25	220	"	1167			
	45	240	"	115	90.	745	
	1.05	260	"	1125			
	25	280	"	1062			
	40	295	"	100	905	745	-147.5
			Charge	417			
2/2/09	PM 200	0	30	1525	905	745	
	02	2	"	159			
	05	5	"	158			
	10	10	"	1595			
	20	20	"	1545			

DATE	TIME				VOLTS 378	TEMPS 398	1012	
12/3/09	AM 7.25	[illegible]	30	[illegible]	[illegible]	[illegible]		
	8.00	40	30		1442			
	30.00	50		1	1466	90	[illegible]	
	[illegible]	30			1465			
	[illegible]	[illegible]			1465			
	[illegible]	[illegible]			[illegible]	[illegible]	735	
	[illegible]	1.00			1460			
	[illegible]	1.00			1460			
	[illegible]	1.20			1452	89.5	732	
	[illegible]	1.00			1452			
	[illegible]	1.20			1452			
	6.00	[illegible]			1452	88.5	73.	
	[illegible]	[illegible]			1442			
	[illegible]	2.00			1442	88	727	
	[illegible]	2.00			1442			
	4.00	2.00			1465			
	[illegible]	3.00			1484	87.5	725	
	20	2.00			1465			
	40	4.00			1442			
	9.00	4.20			1455	892		-7 hrs
12/3/09	7.17							
	7.23				159			
	10.00	0	30		1492			

DATE	TIME			VOLTS 378	TEMPS 398	1012	
12/3/09	AM 7.27	2	30	1442			
	10	5		1392			
	15	10		1365			
	25	20		1335			
	35	30		1315			
	40	40		130			
	1.00	60		127	90	737	
	2.00	80		1252			
	45	100		1232			
	11.05	120		122	88	735	
	25	140		1212			
	45	160		120			
12/3/09	PM 12.05	180		1197	89	737	
	25	200		1152			
	45	220		117			
	1.05	240		115	89½	735	
	25	260		1127			
	45	280		108			
	2.05	29½		100	90	722	-14.92
				Change 418			
12/3/09	PM 3.00	0	30	154	832	72	
	02	2		1595			
	05	5		1601			

Date	Time	Min	Amps	Volts	Temps 398	Temps 398	Idle
12/3/09	1:00	10	30	162			
		20	20	162			
		30	30	162			
		45	45	162			
	400	60	"	163	83	71	75
		25	65	162			
		40	100	162			
	500	130	"	163	83	72	
		30	140	163			
		40	160	162			
	600	180	"	1495	86	72	
		20	200	170			
		40	220	171			
	700	240	"	1735	85	73	
		20	260	175			
		40	280	1734			
	800	300	"	182	84	75	
		20	320	184			
		40	340	185			
	900	360	"	1859	85	75	
		20	380	186			
		40	400	186			
	10:00	420	"	186	86	75	— 7 hrs

DATE	TIME	MIN	AMP	Volts	TEMP. 398	TEMP. 398	TEMP. IDLE
	PM			Discharge			
12/3/09	1:00	—	0	150			
	05	0	20	150			
	07	2	"	147			
	10	5	"	137			
	15	10	"	136			
	25	20	"	133			
	35	30	"	130			
	45	40	"	130	87	73	
	1:05	60	"	126			
	25	80	"	124			
	45	100	"	122	85	72	
	AM						
12/4/09	12:45	120	"	121			
	25	140	"	120			
	45	160	"	119			
	1:05	180	"	118	86	74	
	25	200	"	116			
	45	220	"	116			
	2:05	240	"	116	84	70	
	25	260	"	117			
	45	280	"	120			
	3:05	300	"	120	72	70	— 14 hrs
	3:04	297		100			

DATE	TIME	MIN	AMP	VOLTS	TEMPS 398	TEMPS 1045
	AM					
		[illegible]	[illegible]	[illegible]		419
12/4/09	1105	[illegible]	[illegible]	1[illegible]	762	715
	07	"	"	155		
	10	"	"	151		
	15	"	"	150		
	25	"	"	1625		
	35	30	"	1562		
	45	40	"	1565		
	55	50	"	1627	87	717
	[illegible]	[illegible]	"	1[illegible]		
	15	100	"	1675		
	25		"	1675	727	772
	25		"	165		
	115		"	1602		
	1105		"	1[illegible]	767	7265
	25	200	"	170		
	115	220	"	1[illegible]		
	225	240	"	1727	87	727
	235	260	"	1740		
	45	280	"	177		
	905	300	"	181	885	735
	25	320	"	1822		
	45	340	"	1835		
	1005	360	"	184	912	735
	25	380	"	1842		

Date	Time	Min	Amps	Volts 398	Temps 398	Temps Telle
12/4/09	AM 1045	400	30	124		
	11.05	420	"	1237	95.2	77.5 — 7 hrs
				Discharge.		
12/4/09	PM 1108	—	open	158		
	10	0	30	150		
	12	2	"	1235		
	15	5	"	1295		
	20	10	"	1275		
	30	20	"	134		
	41	31	"	1305		
	50	40	"	1292		
	PM 210	60	"	128	95	737
	30	80	"	1255		
	50	100	"	1237		
	110	120	"	1225	937	74
	30	140	"	122		
	50	160	"	121		
	210	180	"	120	95	745
	30	200	"	119		
	50	220	"	118		
	310	240	"	116	955	752
	30	260	"	1132		
	50	280	"	1082		
	400	290	"	105		

Date	Time	Min	Amp	Volts 398	Temps 398	Temps 398 Idle	
12/4/09	PM 4.13½	302½	30	1.00			−151.7
	.20	310	"	.98			
	.30	320	"	.92			
	.40	330	"	.845	99	75.2	
	.50	340	"	.71			
	5.00	350	"	.50	103.2	75.2	−175

12/6/09 After standing idle 4½ hrs, solution of cell was emptied out which read sp. gr. at temp of and was then filled with 21% H_2SO_4 containing 11.2 g. of H_2SO_4 per liter it will now run as follows

Charge #420

12/6/09	AM 9.25	0	30		on charge		
	.55	30	"		70	72.7	
	11.55	150	"		.80	73.	
	1.55	270	"		.84	74.7	
	3.55	390	"		89	76.2	
	5.55	510	"		90.2	75.8	
	7.55	630	"		93.1	76.2	
	9.55	750	"		94.	76	
	11.55	870	"		94.2	75.9	
12/7/09	AM 12.25	900	"	1.82			−15 lbs

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Idle	
			Discharge #420				
12/7/9	P.M. 12.25	—	off	158	91	72.7	
	30	0	30	1.489			
	32	2	"	1.115			
	35	5	"	1.325			
	40	10	"	1.362			
	50	20	"	1.342			
	1.00	30	"	1.325			
	10	40	"	1.105			
	30	60	"	1.282	91.2	73	
	50	80	"	1.26			
	2.10	100	"	1.215			
	30	120	"	1.22	91.5	72.2	
	50	140	"	1.22			
	3.10	160	"	1.215			
	30	180	"	1.207	91.7	73.5	
	50	200	"	1.177			
	4.10	220	"	1.19			
	30	240	"	1.112	91.2	70.7	
	50	260	"	1.17			
	5.10	280	"	1.158			
	30	300	"	1.137	93.7	74	
	50	320	"	1.127			
	6.10	340	"	1.097			
	30	360	"	1.042	96	74.5	

DATE	TIME	MIN	AMP	VOLT	TEMPS 298	298	IDLE	
12/7/09	4:00	375	30	100				-137.7
	50	380	"	965				
	700	390	"	885				
	10	400	"	745				
	18	408	"	50	99	745		-204
			Charge	421				
12/7/09	AM 750	0	30					
	820	30	"		101.7	74.2		
	1020	150	"		93	73.8		
	1220	270	"		89	74.1		
	220	390	"		88	74.5		
	420	510	"		92.7	74.7		
	620	630	"		94.5	74.5		
	820	750	"		85.7	74		
	1020	870	"		91.2	73		
	1050	900	"	1818				-15 hrs
			Discharge					
12/7/09	PM 1050	0	30	1350				
	55	6	"	1350	92	73		
	57	8	"	1425				
	11.00	8	"	1395				
	03	10	"	1345				

DATE	TIME	MIN	AMP	VOLT	TEMPS 298	298	IDLE	
12/7/09	PM 1115	20	30	1245				
	25	30	"	1222				
	35	40	"	1297				
	55	60	"	1275	91.7	73		
12/8/09	AM 12.15	80	"	1257				
	35	100	"	1242				
	55	120	"	1222	91.5	73		
	1.15	140	"	1222				
	35	160	"	1217				
	55	180	"	1211	93	74		
	2.15	200	"	1210				
	35	220	"	1195				
	55	240	"	1182	95	75		
	3.15	260	"	1165				
	35	280	"	1155				
	55	300	"	1137	96.5	75.5		
	4.15	320	"	1117				
	35	340	"	1065				
	51	356	"	100				-178
	55	360	"	95	99	75.7		
	5.15	380	"	326				
	25	390	"	64.5				
	28	393	"	80	100	75.7		-196.7

Date	Time	Min	Amps	Volts	Temps 3PS	Temps 3PS	Temps 2PS	
			Charge #422					
12/8/09	AM							
	6.00	0	30	Ar charge				
	30	30	"		101	76		
	8.30	150	"		93.8	75.7		
	10.30	270	"		89	74.5		
	12.30	390	"		87.2	74.		
	PM							
	2.30	510	"		89	73.		
	4.30	630	"		90	72		
	6.30	750	"		93	72		
	8.30	870	"		93	72		
	9.00	900	"	1.145				-15 hrs
			Discharge					
12/8/09	AM							
	9.03	—	0	160				
	05	0	30	150	93.5	72		
	07	2	"	142				
	10	5	"	137				
	15	10	"	132				
	20	20	"	135				
	25	30	"	132				
	35	40	"	130				
	45	50	"	130				
	10.05	60	"	128	87	72		
	25	80	"	124				
	45	100	"	122				
	11.05	120	"	122	85.5	72		

DATE	TIME	MIN	AMP	VOLTS 3PS	TEMPS 3PS	TEMPS 2PS	
12/8/09	PM 12.25	140	30	122			
	45	160	"	121			
12/9/09	AM 1.05	180	"	120	87	72.5	
	25	200	"	120			
	45	220	"	119			
	2.05	240	"	118	92	72.5	
	25	260	"	117			
	45	280	"	115			
	3.05	300	"	1.135	93.2	72.5	
	25	320	"	1.117			
	45	340	"	1.105			
	55 57	350 352	"	1.101 1.095			-176.
	4.05	360	"	1.09	95	72.5	
	15	370	"	1.085			
	25	380	"	1.085			
	35	390	"	1.075			
	36	390		1.07	96.5	72.5	-195.7
				Charge #423			
12/9/09	AM 6.10	0	30	161			
	12	2	"	1.635			
	15	5	"	1.635			
	20	10	"	1.639			

DATE	TIME	AMP	AMP	VOLTS 398	TEMPS 398	398 Tube	
12/21/09	PM 3.20	20	30	1642			
	40	30	"	1647			
	50	40	"	1652			
	1.10	50	"	1655	83	73	
	.30	70	"	1655			
	50	100	"	1652			
	2.10	120	"	1.68	84	72.7	T
	30	140	"	1.682			
	50	160	"	1.677			
	3.10	180	"	1.682	91.7		
	30	200	"	1.677			
	50	220	"	1.687			
	4.10	240	"	1.69	84.5	72.5	T
	30	260	"	1.70			
	50	280	"	1.717			
	11.10	300	"	1.725	84.7	72.5	T
	30	320	"	1.74			
	50	340	"	1.75			
	Mid. 12.10	360	"	1.787	85.5	73	T
	30	380	"	1.807			
	50	400	"	1.82			
	1.10	420	"	1.835	88	91	T — 7 hrs
12/22/09	T.M. 1.13	—		Discharge			
				Spun 1.58			

DATE	TIME	AMP	AMP	VOLTS 398	TEMPS 398	398 TUBE	
12/22/09	PM 4.10	0	30	1500			
	.17	"	"	1427			
	.20	"	"	1389			
	.25	10	"	1365			
	.30	20	"	1344			
	.40	30	"	1315			
	.50	40	"	1290			
	5.10	60	"	1267	86.5	73	
	.35	80	"	1247			
	.55	100	"	1230			
	6.15	120	"	1227	89.2	73.7	
	.35	140	"	1217			
	.57	162	"	1209			
	7.15	180	"	1200	88.7	73.5	
	.35	200	"	1189			
	.55	220	"	1.18			
	8.15	240	"	1.16	89.2	73.5	
	.35	260	"	1.135			
	.55	280	"	1.082			
	9.00	290	"	Current off 1055 min			
	10	300	"	100	93	73.5	-150

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP. 358	TEMP. IDLE	
			Charge		424		
12/9/09	PM 100	0	30	1030	91	139	
	02	2	"	169			
	05	5	"	168			
	10	10	"	159			
	20	20	"	1610			
	30	30	"	162			
	40	40	"	1670			
	800	60	"	164	91	72	
	20	80	"	169			
	40	100	"	166			
	900	120	"	166	896	93	
	20	140	"	1665			
	40	160	"	1667			
	1000	180	"	1675	89	[illegible]	
	20	200	"	1675			
	40	220	"	1665			
	1.00	240	"	170	885	76	
	20	260	"	1715			
	40	280	"	1722			
12/10/09	AM 1200	300	"	1772	89	[illegible]	
	20	320	"	1805			
	40	340	"	172			
	1.00	360	"	1825	902	762	
	20	380	"	1837			

Date	Time	Min	Amps	Volts 398	Temp 358	Temp Idle	
12/10/09	PM 140	400	30	174			
	200	420	"	1835	922	76	
	10	430	"				not charged 10 min
12/10/09	A.M. 2 18	after	30	159			
	15	0	"	150			
	17	2	"	1444			
	20	5	"	1395			
	25	10	"	1375			
	35	20	"	134			
	45	30	"	1325			
	55	40	"	1320			
	3.15	60	"	1275	952	75	
	35	80	"	1216			
	55	100	"	1247			
	4.15	120	"	123	91	75	
	35	140	"	1222			
	55	160		1215			
	5 15	180		1202	90	74	
	35	200		1192			
	55	220		1182			
	6 15	240		1165	892	737	
	35	260		1145			
	55	280		111			
	7.05	290	"	1095			To N.V.

Date	Time	Min	Amps	Volts	Temps 398	Temps 398 Idle	
12/10/09	7:16	300	30	1.645	90	72.2	
	25	309	"	160			-154.5

Battery off Time

Charge 7 425

Date	Time	Min	Amps	Volts	Temps 398	Temps 398 Idle	
12/10/09	2:M 8:25	0	30	1.54	86.2	72	
	27	2	"	1.58			
	.30	5	"	1.59			
	.35	10	"	1.600			
	.45	20	"	1.622			
	.55	30	"	1.632			
	9.05	40	"	1.64			
	.15	60	"	1.652	88	71.6	
	.45	80	"	1.67			
	10.05	100	"	1.672			
	.25	120	"	1.672	88	71.5	
	.45	140	"	1.672			
	11.05	160	"	1.675			
	25	180	"	1.672	86.2	72.5	T
	.45	200	"	1.685			
	P.M. 12.05	220	"	1.695			
	25	240	"	1.707	85.5	72.	
	.45	260	"	1.725			
	1.05	280	"	1.747			

Date	Time	Min	Amp.	Volts	Temp. 398	Temp. 398 Idle	
12/10/09	P.M. 1.25	300	30	1.795	86	72.7	T
	.45	320	"	1.82			
	2.05	340	"	1.837			
	.25	360	"	1.847	86.2	73.	T
	.45	380	"	1.855			
	3.05	400	"	1.86			
	.25	420	"	1.860	87	72.2	T -7 hrs.

12/10/09 P.M. Discharge

Date	Time	Min	Amp.	Volts	Temp. 398	Temp. 398 Idle	
	3.58	—	Time (87)				
	.30	0	30	1.490			
	.32	2	"	1.43			
	.35	5	"	1.40			
	.40	10	"	1.372			
	.50	20	"	1.34			
	4.00	30	"	1.32			
	.10	40	"	1.30			
	.30	60	"	1.28	88.2	72.7	
	.50	80	"	1.26			
	5.10	100	"	1.24			
	.30	120	"	1.232	88	72.7	
	.50	140	"	1.22			
	6.10	160	"	1.22			
	.30	180	"	1.21	88.5	70	
	.50	200	"	1.20			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP 1045	
12/10/09	PM 710	220	30	.113			
	30	230	"	.1125	925	.92	
	50	250	"	.114			
	810	350	"	110			
	20	270	"	1025			
	30	300	"	102	92	.937	-153.2
	345	3015	"	100			
	40	310	"	98			
	50	320	"	942			
	900	330	"	88			
	10	340	"	80			
	20	350	"	58			
	25	355	"	50	95	.937	-177.5
12/13/09	All well now runs in the Endurance Section for 47 runs. See results in the Endurance Book.						
	All Cells Used 47 Endurance Runs. Stood Idle 9 1/2 hours. Connected on Board for overcharge tests						

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP 398	TEMP Zelle	
	PM	Charge # 473					
1/16/10	900	0	30	(Discharge)			
	30	30	"		727	70	
	1130	150	"		62	727	
1/17/10	AM 130	270	"		841	74	
	330	390	"		865	74	
	530	510	"		835	722	
	730	630	"		89	78	
	930	750	"		935	732	
	1130	870	"		942	745	
	PM 1230	900	"	1887			-15 hrs.
1/17/09	PM	Discharge					
	1203	—	off	1882	95	747	
	05	0	30	1891			
	08	3	-	1402			
	10	5	-	1397			
	15	10	-	1375			
	25	20	-	134			
	35	30	-	1325			
	45	40	-	131			
	1005	60	-	128	94	75	
	25	80	-	1207			
	45	100	-	124			
	205	120	-	1227	927		

Date	Time	Min	Amp	Volts 398	Temp 398	Temp 1017	
1/17/10	PM 2 25	140	30	132			
	45	160	"	1217			
	305	180	"	120	92	74	
	25	200	"	1177			
	45	220	"	1165			
	405	240	"	118	95	75	
	25	260	"	112			
	45	260	"	1145			
	505	300	"	1125	95	75	
	25	320	"	110			
	45	340	"	1.06			
	55	350	"	102			
	6 min	354		100			
	00	360	"	97	99	76.2	-177.5
	15	370	"	88			
	25	380		76			
	35	390		50	118	77	-105
		Charge #4					
1/7/10	PM 505	0	30				On charge
	835	30	"		111	77.5	
	1035	150	"		97	77	
1/18/10	1235	270	"		90.2	No.	
	235	390	"		88.2	75.2	
	435	510	"		87.5	74	
	635	630	"		91	75	

Date	Time	Min	Amp	Volts 398	Temps 398	Temps Idle	
1/18/10	AM 835	700	30		92.2	74.2	
	1035	870	"		91.5	73.2	
	1105	900	"	118.2			-15 lms.
		Discharge					
1/18/10	AM 1128	—	open	109.2	91.7	73.2	
	10	0	30	150			
	12	2	"	142.2			
	15	5	"	139.2			
	20	10	"	136.7			
	30	20	"	134			
	40	30	"	132			
	50	40	"	130.5			
	PM 1210	60	"	127.7	89.7	73.5	J.
	30	80	"	125.7			
	50	100	"	124			
	110	120	"	123.2	86	73.5	J.
	30	140	"	122.2			
	50	160	"	121.2			
	210	180	"	121	91.5	73.5	
	30	200	"	120			
	50	220	"	119.2			
	310	240	"	118	91.5	73.2	
	30	260	"	116.5			
	50	280	"	115.5			

DATE	TIME	Min	Amp	Volts 398	TEMP 398	TEMP Idle	
1/13/10	PM 110	300	20	113	88.2	73.2	
	30	370	"	100			
	50	340	"	106			
	500	350	"	102			
	54	350	"	100			
	10	360	"	99	92.5	73	-177
	20	370	"	85.5			
	30	380	"	66.5			
	39	384	"	50			
				101.5	73		-192
1/18/10	PM			Charge #	475		
				Ex Charge			
	705	0	30		103.7	73.2	
	35	80	"		96	74.5	
	935	150	"		87.7	74	
	1135	240	"				
1/19/10	AM 135	390	"		86	74.5	
	335	510	"		86	75	
	535	630	"		91.5	75	
	735	750	"		91	75	
	935	870	"		91.7	72.2	
	1005	900	"	100.5			-15 hrs
1/17/10	PM			Discharge			
	1008	-		Start 398	91.5	73	

Date	Time	Min	Amp	Volts 398	Temps 398	Temps Idle	
1/17/10	AM 010	5	30	105.5			
	12	5	"	102			
	15	5	"	103.7			
	20	10	"	104.5			
	30	20	"	103.7			
	40	30	"	103.7			
	50	40	"	103.2			
	110	60	"	102.7	89	72.2	
	30	80	"	102.7			
	50	100	"	102.4			
	PM 110	120	"	102.7	90	73.2	
	30	140	"	102.2			
	50	160	"	101.5			
	110	180	"	100.7	91.5	73	
	30	200	"	100			
	50	220	"	119.2			
	210	240	"	118	92	73	
	30	260	"	116.5			
	50	280	"	115			
	310	300	"	113.5	92.5	73	
	30	320	"	110.2			
	150	340	"	108.7			
	410	360	"	100			-175
	510	360	"	94	94.5	73.2	
	10	370	"	Dis			

Date	Time	Min	Amps	Volts 398	Temps 398	Temps Idle	
1/19/10	PM 4.30	380	30	1.615			
	.35	380	.	.750	967	732	-1965
1/19/10	PM		Charge #4		76		
	610	0	30		91	785	
	710	60	.		90	74	
	810	120	.		892	74	
	910	180	.		882	742	
	1010	240	.		885	705	
	1113	300	.		887	755	
1/20/10	1215	360	.		890	76	
	1115	420	.	1817			-7 hrs.
		Discharge					
1/20/10	1.13	-	0/Ave	158	90	76	
	15	0	30	1495			
	17	2	"	1415			
	20	5	"	1382			
	25	10	.	1362			
	1.35	20	"	1.335			
	1.45	30	"	1.315			
	55	40	"	1.297			
	2.15	60	"	129	907	748	

Date	Time	Min	Amps	Volts 398	Temps 398	Temps Idle	
1/20/10	2.35	80	30	1.272			
	55	100	"	1.26			
	3.15	120	"	1.23	915	75	
	35	140	"	1.222			
	55	160	"	1.22			
	4.15	180	"	1.205	92	75	
	35	200	.	1.197			
	55	220		1.18			
	5.15	240		1.162	93	747	
	35	260		114			
	55	280		1.19			
	6.15	(hours) 300		1.1819	(minutes)		
	17	301		1.15			-150.5
1/20/10	AM		Charge #4		77		
	645	0	30	1.584	93	74	
	47	2	"	1.565			
	50	5		1.495			
	55	10		159			
	700	20		162			
	15	30		162			
	25	40		1.625			
	45	60		164	90	74	
	8.05	80		1.655			

Date	Time	Min	Amp	Volts 398	Temps 398	Temps Idle	
1/20/10	AM 815	100	20	1661			
	45	120	"	1665	90	74	
	900	140	"	1667			
	25	160	"	1671			
	45	180	"	1672	88	74	Temp
	1000	200	"	1677			
	25	220	"	1677			
	45	240	"	1707	87	75	
	1100	260	"	1725			
	25	280	"	1755			
	45	300	"	178	86.5	74.2	
	PM 12:00	320	"	182			
	25	340	"	183			
	45	360	"	185	86	70.5	
	100	380	"	185			
	25	400	"	186			
	45	420	"	186			-7 lbs.
				Discharge			
1/20/10	PM 1:45	—	dim	160	88.5	70.7	
	50	0	30	1497			
	55	2	"	1435			
	55	5	"	1397			
	300	10	"	1375			
	10	20	"	132			

DATE	TIME	MIN	AMPS	VOLTS 398	TEMP. 398	TEMP. Idle	
1/20/10	PM 320	30	30	130			
	30	40	"	126			
	50	60	"	126	89.5	72.5	
	310	80	"	124			
	30	100	"	1222			
	50	120	"	122	89.5	73	
	410	140	"	121			
	30	160	"	120			
	50	180	"	119.5	89.5	73	
	510	200	"	118.5			
	30	220	"	117.5			
	50	240	"	116	91.5	73	
	610	260	"	114			
	30	280	"	109.7			
	50	300	"	102	92.5	73	
	57	307		100			-153.5
				PM Charge	478		
1/20/10	740	0	30	153	92.5	73.5	
	42	2	"	157.5			
	45	5	"	158			
	50	10	"	159			
	800	20	"	160.5			
	10	30	"	161.5			

Date	Time	Min	Amps	Volts 398	Temps 398	Temps Idle	
1/20/10	8:30 AM	40	30	162			
	40	60	"	164	92	76.2	
	9:00	80	"	165			
	20	100	"	165.7			
	40	120	"	166	92	75	
	10:00	140	"	166			
	20	160	"	166.2			
	40	180	"	166.5	91	76	
	11:00	200	"	167.5			
	20	220	"	168.2			
	40	240	"	169.5	91	76.5	
1/20/10	12:00 PM	260	"	171			
	20	280	"	172.5			
	40	300	"	174.5	91.7	76.7	
	1:00	320	"	178			
	20	340	"	178.2			
	40	360	"	179.7	92.5	76.7	
	2:00	380	"	184			
	20	400	"	184			
	40	420	"	184			-7 hrs.
	PM	Pile Charged					
1/20/10	243	-	0/end	158.2			Y.
	45	0	30	149	94	76.2	
	47	2	"	142.5			

Date	Time	Min	Amps	Volts 398	Temps 398	Temps Idle	
1/21/10	3:45 PM	5	30	139			
	55	10	"	136.5			
	4:05	20	"	133.7			
	15	30	"	132			
	25	40	"	130			
	45	60	"	127.7	94	76.2	
	5:05	80	"	126			
	25	100	"	124			
	45	120	"	123.2	93	76	
	6:05	140	"	122.2			Volt
	25	160	"	122			
	45	180	"	120.5	93	76	
	7:05	200	"	119.5			
	25	220	"	118			
	45	240	"	116.5	94	76	
	8:05	260	"	114			
	25	280	"	109.5			
	35	290	"	105.5			
	45	300	"	102	94	75.2	
	48	303	"	100			-151.5
		Charge #379					
1/21/10	9:05 AM	0	"	127	88.2	75	
	07	2	"	125			
	10	5	"	160			

Date	Time	Min	Amp	Volts 398	Temps 398	Temps Idle	
1/21/10	9.15	10	30	1602			
	25	20	"	162			
	35	30	"	163			
	45	40	"	164			
	10.05	60	"	1652	87	74	
	25	80	"	1662			
	45	100	"	1667			
	11.05	120	"	168	807	74	J.
	25	140	"	1685			
	50	160	"	169			
	12.05	180	"	169	830	74	
	25	200	"	170			
	45	220	"	1705			
	1.05	240	"	1725	84	74	
	25	260	"	174			
	45	280	"	176			
	2.05	300	"	1795	85	74	
	25	320	"	1822			
	45	340	"	1840			
	3.05	360	"	1847	865	7.95	
	25	380	"	1895			
	45	400	"	185			
	4.05	420	"	1855	90	7.95	— 7 hrs.
				28			

DATE	TIME	MIN	AMP	VOLTS 398	TEMP. 398	TEMP. IDLE	
				Discharge			
1/21/10	AM 4.08	—	Amp	150			
	10	0	90	150			
	12	2	"	142			
	15	5	"	140			
	20	10	"	1395			
	30	20	"	134			
	40	30	"	132			
	50	40	"	130			
	5.10	60	"	128	90	7.95	
	30	80	"	1255			
	50	100	"	124			
	6.10	120	"	1225	95	7.3	
	30	140	"	122			
	50	160	"	1215			
	7.10	180	"	1202	92	7.35	
	30	200	"	120			
	50	220	"	118			
	8.10	240	"	1165	894	7.37	
	30	260	"	1135			
	50	280	"	1092			
	9.00	300	"	106			
	10	300		1065	927	74	
	10	300		100			152
	20	310		97			
	30	320		922			

Date	Time	Min	Amp	Volts 398	Temp 398	Idle	
1/21/10	9.40	330	3-	847			
	50	340	-	725			
	10.00	350		65			
	03	353		60	977	74	-176.5
				in tu - no charge left for note			
11				Charge #526			
3/2/10	PM 11.03	0	30	on charge			
	30	30	"	747	782		
3/3/10	AM 130	150	"	835	775		
	330	270	"	86	77		
	530	390	"	89	76		
	730	510	"	922	76		
	930	630	"	95	76		
	1130	750	"	95	762		
	PM	870	"	967	762		
	300	900	-	1602	957	76	-1.6
				Discharge			
3/3/10	PM 2.03	-		open (157)			
	05	0	30	1667			
	07	2	"	1115			
	10	5	"	1082			
	15	10	"	136			
	21	30		183			

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Date	Time	Min	Amp	Volts 398	Temp 398	Idle
3/2/10	2.35	30	30	131		
	45	40	"	130		
	3.05	60	"	1272	91	945
	25	80	"	1245		
	45	101	"	1227		
	4.05	120	"	1219	86	932
	25	140	"	1207		
	45	160	"	1202		
	5.05	180	"	1192	88	935
	25	200	"	1187		
	45	220	"	1177		
	6.05	240	"	1161	929	949
	25	260	"	1116		
	45	280	"	1142		
	7.05	300	"	112	945	95
	25	320	"	1097		
	45	340	"	1065		
	55	350	"	1035		
	8.05	360	"	100	965	76 -180
	15	370	"	96		
	25	380	"	892		
	35	390	"	737		
	44	399	"	00	100	767 -175.5

Date	Time	Min	Amp	Volts 398	Temps 398	Temps Idle	
3/4/10	PM			Charge	3.27		
	9.55	0	30	On charge			
	10.25	30	"	957	772		
3/4/10	PM 12.25	150	"	95	78		
	2.25	270	"	92	77		
	4.25	390	"	925	77		
	6.25	510	"	95	77		
	8.25	630	"	972	762		
	10.25	750	"	957	732		
	PM 12.25	870	"	96	76		
	1.03	928	181	98	762	1.5 hr Rest	
				Discharge			
3/4/10	PM —	-	open	—			
	1.04	0	30	1.485			
	.07	2	"	1.425			
	.10	5	"	139			
	.15	10	"	1362			
	.25	20	"	1335			
	.35	30	"	1315			
	.45	40	"	130			
	2.05	60	"	127	972	79	
	.25	80	"	1249			
	.45	100	"	123			
	3.05	120	"	122	972	79	

I A A

Date	Time	MIN	Amps	Volts 398	Temps 398	Temps Idle	
3/4/10	PM 3.25	140	30	121			
	.45	160	"	1.19			
	4.05	180	"	120			
	.25	200	"	1195	99	785	
	.45	220	"	1185			
	5.05	240	"	1165			
	.25	260	"	1165	99	"	
	.45	280	"	114			
	6.05	300	"	1127			
	.25	320	"	1095			
	.45	340	"	106			
	7.05	360	"	100 99	98		-178
	.15	376	"	.892			
	.25	380	"	46			
	.35	390	"	542			
	.45	392	"	50 .962	982	78	-186
	PM			Charge	3.28		
3/4/10	9.45	0	30	On Charge			
	9.45	30	"	92	79		
	11.15	150	"	90	78		
3/5/10	AM 1.45	270	"	91	78		
	3.15	390	"	90	78		

Date	Time	Min	Amps	Volts	Temps 398	Temps 398	Temps Idle	
3/5/10	PM 5.15	510	30		95	44		
	7.15	630	"		885	77		
	9.15	750	"		96	755		
	11.15	870	"		91	697		
	45	900	"	1825	92	72		-1.5h
				Discharge				
3/5/10	A.M. 11.15	—	Open	1572				
	50	0	30	1465				
	52	2	"	1422				
	55	5	"	1382				
3/5/10	PM 12.00	10	"	1357				
	10	20	"	1325				
	20	20	"	1305				
	30	40	"	1287				
	50	60	"	1262	85	712		✓
	1.10	80	"	1242				
	30	100	"	1225				
	50	120	"	1217				✓
	2.10	140	"	1209	83	711		
	30	160	"	1210				
	50	180	"	1192	84	711		✓
	3.10	200	"	1185				
	30	220	"	1172				
	50	240	"	116				

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DATE	TIME	MIN	AMPS	VOLT 398	TEMPS. 398	IDLE	
3/5/10	PM. 4.12	262	30 / 1.8	115			
	30	280	"	1127			
	50	300	"	112	865	71	
	5.10	320	"	1092			
	30	340	"	1042			
	48	358	"	1007	912		
	50	360	"	109 / 945			-7.5h
	6.00	370	"	865			
	10	380	"	42			
	20	390	"	53			
	30	390	"	60	915	✓	-1.5h

Attempted to I6 [illegible]
[illegible]

CHARGE #27

3/4/10	PM 8.10	0					
	9.10	60			85	81	
	10.10	120			87	807	
	11.10	180			88	80	
3/5/10	AM 12.10	240			90	81	
	1.10	300			89.5	80	
	2.10	360			89	79	
	3.10	420		179	90	785	-7h

DATE	TIME	MIN	VOLTS AMPS	TEMPS 398	TEMPS 398	TEMPS IDLE
			DISCHARGE			
3/7/10	A.M. 3:13	—	Time 1562			
	15	0	30 148			
	17	2	140			
	20	5	1375			
	25	10	1355			
	35	20	1335			
	45	30	132			
	55	40	129			
	4:5	60	126			
	35	80	1222	91	782	
	55	100	122			
	5:5	120	1205	915	477	
	35	140	120			
	55	160	1185			
	6:15	180	1177	92	482	
	35	200	1175			
	55	220	116			
	7:15	240	1142	92	457	
	35	260	1115			
	55	260	105			
	8:00	2775	100	947	777	-144

Date	Time	Min	Amps	Volts 398	Temps 398	Temps Idle	Remarks
3/7/10	A.M.			blanger	53		
	9:10	0	30	1505	90	77	
	12	2	"	1525			
	15	5	"	1545			
	20	10	"	157			
	30	20	"	157			
	40	30	"	1587			
	50	40	"	1605			
	10:10	60	"	1627	865	745	
	30	80	"	1637			
	50	100	"	1647			
	11:10	120	"	1655	84	73	
	30	140	"	1627			
	50	160	"	1637			
3/7/10	PM 12:10	180	"	168	815	71	
	30	200	"	1687			
	50	220	"	1682			
	1:10	240	"	172	815	71	
	30	260	"	168			
	50	280	"	1441			
	2:15	305	"	149	80	71	
	30	320	"	1805			
	50	340	"	1822			
	3:10	360	"	1827	85	71	
	30	380	"	1827			

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Date	TIME	MIN	AMP	VOLTS	TEMPS	
					398	IDLE
3-9-10	PM 1150	400	30	1835		
	1210	420	"	1822	855	695
	30					
3-9-10	PM					
	HS	—		158		
	15	0	30	148		
	18	3	"	1405		
	20	5	"	138		
	25	10	"	136		
	34	22	"	132		
	45	30	"	1305		
	55	40	"	129		
	515	60	"	126		
	15	80	"	124	875	70
	55	100	"	1222		
	615	120	"	122		
	35	140	"	1205		
	55	160	"	118		
	715	180	"	119		
	35	200	"	118	91	
	55	220	"	1195		
	815	240	"	116		
	35	260	"	114	93	74
	55	280	"	115	94	
	905	300	"	100	94	144

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Date	TIME	MIN	AMP	VOLTS	TEMPS	
					398	IDLE
4/10	PM			Change # 531		
	1225	0	30	149		
	24	2	"	150		
	30	5	"	1512		
	35	10	"	154		
	45	20	"	148		
	55	30	"	158		
	1105	40	"	156		
	25	60	"	1577	885	74
	45	80	"	1635		
	1205	100	"	158		
	25	120	"	1605	877	747
	45	140	"	163		
	105	160	"	1637		
	25	180	"	162	895	75
	45	200	"	1637		
	205	220	"	162		
	225	240	"	1697	89	752
	45	260	"	1757		Mills changed
	305	280	"	1785		
	25	300	"	1815	90	757
	45	320	"	1822		
	405	340	"	1825		
	25	360	"	184	93	76
	45	380	"	1825		

DATE	TIME	MIN	AMP	VOLTS 398	TEMPS 398	TEMPS 1020	
3/8/10	505	400	30	184			
	25	450	"	1862	95	76	-Jhn
				DISCHARGE			
3/8/10	528	-	7 Amp	154			
	30	0	30	150			
	32	2	"	1455			
	35	5	"	140			
	40	10	"	1377			
	50	20	"	135			
	600	30	"	133			
	10	40	"	1307			
	30	60	"	128	94.7	76.2	
	50	80	"	126			
	710	100	"	1247			
	30	120	"	124	95	76.5	
	50	140	"	1235			
	810	160	"	1222			
	30	180	"	1217	95	76.5	
	50	200	"	119			
	910	220	"	1185			
	35	[illegible]	"	118	95	76.5	
	50	240	"	1155			
	1010	260	"	1117			
	30	280	"	106	95.3	77.6	

1 a 1 ft

Date	time	MIN	Amps	VOLTS 398	TEMPS 398	TEMPS 1020	
3/8/10	AM 10:39	309	30	100	96		-15+.5
					charge ±5.32		
3/8/10	AM 11:55	0	30	1174	96	74	
	57	2	"	158			
3/8/10	PM 12:00	5	"	160			
	05	10	"	1617			
	15	20	"	1627			
	25	30	"	1637			
	35	40	"	1645			
	55	60	"	1665	96.5	77.5	
	1.15	80	"	168			
	35	100	"	168			
	55	120	"	1682	85	77.7	
	2.15	140	"	1687			
	35	160	"	169			
	55	180	"	170			
	3.15	200	"	172			
	35	220	"	173	98	79	
	55	240	"	1732			
	4.15	260	"	174	97	79.5	
	35	280	"	175			
	55	300	"	177			

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Date	TIME	MIN	AMP	VOLTS 298		TEMPS 298	IDLE	Remarks
3/8/10	PM 5.15	320	30	1842		845	725	
	.30	340	"	1850				
	50	360	"	1850				
	6.15	380	"	186				
	35	400	"	185				
	55	420	"	185		90	742	-7.2
			"					
			"					
3-8-10	P.M.			Discharge				
	6.58	—	2 Amp	160				
	7.00	0	30	150				
	.02	2	"	143				
	.05	5	"	1405				
	.10	10	"	138				
	.20	20	"	134				
	.30	30	"	1325				
	.40	40	"	1305				
	8.00	60	"	1282		92	745	
	.20	80	"	1265				
	.40	100	"	1245				
	9.00	120	"	124		93	75	
	.20	140	"	1225				
	.40	160	"	1222				
	10.00	180	"	122		94	75	
	.20	200	"	1202				

1st Int a

DATE	TIME	MIN	AMP	VOLTS 298		TEMPS 298	IDLE	
1-10-10	1.40	220	30	1185				
	1100	240	"	1177		95	75	
	20	260	"	114				
	40	280	"	108				
	1.50	290	"	106				
3/9/10	AM 12.00	300	"	102		97	752	
	.06	306	"	100				-1.53
	.10	310	"	98				
	.20	320	"	93				
	.30	330	"	84				
	.40	340	"	69				
	.50	350	"	50		100	752	-1.75

3-9-10 P.M. Cells disconnected from Board after idle 3.7 hours.
3-10-10 P.M. Connected on Endurance for 46 mins.
4-6-10 P.M. Disconnected from Endurance after idle 8 days 1.5 hours.
4-14-10 P.M. Connected on Board for over charge mins.

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Date	Time	Min	Amps	Volts 398	Temps 398	Temps Idle	
				Charge	579		
4/14/10	AM 8.45	0	20	on charge			
	9.15	20	"	77	795		
	11.15	150	"	827	79		
4-15-10	PM 1.15	270	"	85	776		
	3.15	390	"	88	785		
	5.15	510	"	93	805		
	7.15	630	"	96	81		
	9.15	750	"	97	807		
	11.15	870	"	98	817		
	.45	900	"	182	885	82	-15 hrs.
				Discharge			
4-15-10	PM 11.48	—	open	158			
	.50	0	30	1485			
	.52	2	"	142			
	.55	5	"	1305			
	AM 12.00	10	"	136			
	.10	20	"	133			
	.20	30	"	130			
	.30	40	"	130			
	.40	50	"	128	982	82	
	.50	60	"	127			
	1.00	70	"	125			
	.10	80	"	122			
	.20	100	"	120			

Date	Time	Min	Amps	Volts 398	Temps 398	Temps Idle	
4-15-10	PM 1.50	120	30	1225	98	84	
	2.10	140	"	122			
	.30	160	"	1215			
	.50	180	"	1202	87	84	
	3.10	200	"	120			
	.30	220	"	119			
	.50	240	"	1175	985	84	
	4.10	260	"	1165			
	.40	290	"	1137			
	.50	300	"	1125	100	842	
	5.00	310	"	111			
	.10	330	"	1095			
	.30	350	"	1075			
	.50	370	"	1062			
	6.10	390	"	1005			
	.41	421	"	100			-17.5.5
	.50	430	"	962	105		
	6.00	470	"	84			
	.10	480	"	66			
	.19	489	"	50			-19.3.5
	②						
				Charge	580		
4/15/10	PM 7.35	0	30				
	7.05	30	"		102	862	15 hr
	10.05	150	"		97	87	

II

Date	TIME	MIN	AMP	VOLTS 398	TEMPS 398	TEMPS Idle	
4-15-10	AM 12.05	270	30	0	96	87.5	
	2.05	390	"		90.5	87	
	4.05	510	"		97.5	85	
	6.05	630	"		98	83	
	8.05	750	"		96	81	
	10.05	870	"		90	77.2	
	12.35	990	"	154	92	76.5	-15 hrs.
			"				
				Discharge			
4-16-10	AM 10.35		Green	159			
	.40	0	30	151.7			
	.42	2	"	149.5			
	.45	5	"	139			
	.50	10	"	136.2			
	11.00	20	"	133			
	.10	30	"	131			
	.20	40	"	129.5			
	.40	60	"	127	89	75.5	
	PM 12.00	80	"	124.5			
	.20	100	"	123			
	.40	120	"	121.7	89	75.5	
	1.00	160	"	120.5			
	.20	180	"	120			
	.40	200	"	119.5	90	76	
	2.00	220	"	119			

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Date	Time	Min	Amps	Volts 398	Temps 398	Temps Idle	
4-16-10	AM 1.20	220	30	115.2			
	40	240	"	116.5	90	76.2	
	3.00	360	"	115.7			
	20	380	"	114.2			
	40	400	"	112.2	92.7	77	
	4.00	420	"	105.2			
	.20	440	"	101.7			
	.25	445	"	100			-17.22
	.35	455	"	99.2			
	.40	460	"	86.			
	5.30	470	"	53.2	74.7		-19.05
	.01	471	"	50			
	~~.10~~	~~480~~	"				
				after idle 26 hours			
				over Saturday and Sunday			
P.M.				Charge # 581			
4-17-10	8.10	0	30	on charge			
	.40	30	"		74	74	
	10.40	150	"		79.7	75	
4-18-10	AM 12.40	270	"		83	76.5	
	2.40	390	"		77.5	75	
	4.40	510	"		91	78.2	
	6.40	630	"		95	77.5	
	8.40	750	"		92	77.5	
	10.40	870	"		94	77	
	11.10	900	"	186	94	77	-15 hrs.

II. 0

Date	Time	M/W	Amps	Volts 398	Temps 398	Temps Elle	
			Discharge				
4-15-10	11.15 A.M.	—	Open	1555			
	.15	0	30	1455			
	.17	2	"	1420			
	.20	5	"	1382			
	.25	10	"	1362			
	.30	20	"	1355			
	.40	30	"	1312			
	.45	40	"	1330			
	12.15	60	"	1277	935	78	
	.35	80	"	1255			
	.50	100	"	1235			
	1.15	120	"	122	902	78	
	.35	140	"	121			
	.55	160	"	120			
	2.15	180	"	1192	905	77	
	.35	200	"	1185			
	.55	220	"	1175			
	3.19	244	"	1162	92	77	
	.35	260	"	115			
	.55	280	"	1132			
	4.15	300	"	1115	92	77	
	.35	320	"	1082			
	.45	330	"	1067			
	.55	340	"	1057			

Date	Time	M/W	Amps	Volts 398	Temps 398	Temps Elle	
11/18/10	A.M. 8.29½	3.1½	30	100			-172.2
	5.05	3.50	"	97			
	.15	360	"	905	96	777	
	.25	370	"	902			
	.35	380	"	64			
	.41	386		50	97	752	-193
			Charge				#582
11/18/10	7.00	0	30				
	.20	30	"		90	75	
	9.30	150	"		922	80	
	11.30 A.M.	270	"		91	81	
11/19/10	1.30	390	"		885	81	
	3.30	510	"		945	812	
	5.30	630	"		87	8[illegible]	
	7.30	750	"		96	825	
	9.30	870	"		98	81	
	10.10	900	"	1237	99	81	-15 hr.
			Discharge				
4-9-10	P.M. 10.03	—	Open	1552			
	.05	0	30	1482			
	.07	2	"	1417			
	.10	5	"	1387			

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Date	Time	MIN	Amps	Volts	Temp.		
					398	Edit	
4-19-10	10.15	0	30	1362			
	.25	20	"	1.24			
	.35	30	"	1.317			
	.45	40	"	1.20			
	11.05	60	"	1.277	965	81	
	.25	80	"	1.25			
	.45	100	"	1.237			
	12.05	120	"	1.22	912	816	
	.25	140	"	1.21			
	.45	160	"	1.20			
	1.05	180	"	1.20	97	812	
	.25	200	"	1.19			
	.45	220	"	1.15			
	2.05	240	"	1.165	99	815	
	.25	260	"	1.155			
	.45	280	"	1.132			
	3.05	300	"	1.165	98	815	
	.15	310	"	1.089			
	.25	320	"	1.07			
	.35	330	"	1.037			
	.45	338	"	1.00			-168
	.55	340	"	.986			
	.55	350	"	.917			
	4.05	360	"	.812	997	90	N
	.15	370	"	.637			

II ①

Date	Time	MIN	Amps	Volts	Temp.		
					398	Edit	
4-19-10	4.30	75	30	.80	1327	72	-187.5
			Charge				
4-19-10	5.45	0	30		94	90	
	6.45	60	"		96	88	
	7.45	120	"		95	87	
	8.45	180	"		89	80	
	9.45	240	"		87	782	
	10.45	300	"		88	78	
	11.45	360	"		88	78	
4-20	12.45	420	"	182	91	775	-7 Rs.
			Discharge				
4-20-10	12.48	open	30	158			
	50	0	"	1485			
	52	2	"	142			
	55	5	"	138			
	1.00	10	"	136			
	.10	20	"	1327			
	20	30	"	1305			
	30	40	"	1287			
	50	60	"	1262	905	78	
	2.10	80	"	1245			
	2.30	100	"	113			

II ①

Date	Time	Min	Amps	Volts	Temper. 398	Temper. Idle	
4-20-10	A.M. 2.50	120	30	122	99.7	78	
	3.10	140	"	120.7			
	30	160	"	120.5			
	50	180	"	120			
	4.10	200	"	119			
	30	220	"	118			
	50	240	"	115.7	94	98	
	5.10	260	"	113			
	30	280	"	106.5			
	40	290	"	102			
	4.50	290 3/4	"	100	95	78	-146.7
				Recharge #5-84			
4-20-10	A.M. 6.15	0	30	1.53	93.5	78	
	.17	2	"	1.565			
	20	5	"	1.577			
	.25	10	"	1.587			
	.35	20	"	1.597			
	.45	30	"	1.605			
	.55	40	"	1.615			
	7.15	60	"	1.625	92	78	
	.35	80	"	1.632			
	.45	100	"	1.642			

Date	Time	Min	Amps	Volts	Temper. 398	Temper. Idle	
4-20-10	A.M. 8.15	120	30	1.662	89	78	
	.35	140	"	1.67			
	.55	160	"	1.675			
	9.15	180	"	1.672	87	75.7	
	.35	200	"	1.68			
	.55	220	"	1.70			
	10.15	240	"	1.715	85.7	75	
	.35	260	"	1.747			
	.55	280	"	1.76			
	11.15	300	"	1.792	85	74.5	
	.35	320	"	1.82			
	.55	340	"	1.832			
	P.M. 12.15	360	"	1.817	85	74.5	
	.35	380	"	1.837			
	.55	400	"	1.857			
	1.15	420	"	1.874	90	75	- 72.0
				Discharge			
4-20-10	P.M. 1.18	—	Open	1.55			
	.20	0	30	1.49			
	.22	2	"	1.415			
	.25	5	"	1.35			
	.30	10	"	1.36			
	.40	20	"	1.337			
	.50	30	"	1.325			

II ①

Date	Time	Min	Amp	Volts 398	Temps 398	Temps Idle	
4/20/10	2:00	40	30	1.219			
	20	60	"	1.262	91	75	
	40	80	"	1.245			
	3:00	100	"	1.225			
	20	120	"	1.227	89	75	
	40	140	"	1.220			
	4:00	160	"	1.220			
	20	180	"	1.195	905	755	
	40	200	"	118			
	5:00	220	"	117			
	20	240	"	115	915	75	
	40	260	"	112			
	6:00	280	"	1015			
	10	290	"	1005			
	12:2	292		100	92	75	-146.2
				Charge	585		
4/20/10	12:00	0	30	1.56			
	.22	2	"	159			
	.25	5	"	1.602			
	.30	10	"	1.607			
	.40	20	"	162			
	.50	30	"	1.627			

II ①

DATE	TIME	MIN	Amp	Volts 398	TEMPS 398	TEMPS Idle	
4/21/10	9:00	40	30	1642			
	20	60	"	1655	87	75	
	40	80	"	1662			
	9:00	100	"	167			
	20	120	"	1672	867	752	
	40	140	"	168			
	10:00	160	"	1682			
	20	180	"	1685	867	76	
	40	200	"	169			
	11:00	220	"	172			
	20	240	"	1707	875	76	
	40	260	"	1725			
4/21/10	12:00	280	"	1742			
	20	300	"	1775	89	762	
	40	320	"	1805			
	1:00	340	"	1817			
	20	360	"	1825	92	772	
	40	380	"	1822			
	2:00	400	(1775)	182	90	78	
	20	420	"	1835			-7 h.
				Discharge			
4/21/10	2:23	—	open	1582			
	25	0	30	149			
	27	2	"	142			

II (1)

Date	TIME	MIN	AMP	VOLTS 398	TEMPS 398	1045	
4-21-10	2.30	5	30	1395			
	35	10	"	137			
	4½	21½	"	1335			
	55	30	"	128			
	305	40	"	130			
	25	60		1275	937	78	
	45	80		125			
	405	100		124			
	25	120	"	1227	935		
	45	140	"	122			
	505	160	"	1212			
	25	180	"	1205	94	78	
	45	200	"	1192			
	605	220	"	1185			
	25	240	"	1165	947	78	
	45	260	"	1133			
1/	705	280	"	1108			
	1.5	290	"	1.04			
	24	299	"	100	96	782	-149.5
4-21-10	12 820	0	30	Change #586 1.54	91	785	

II (1)

Date	Time	MIN	Amps	Volts 395	Temps 998	1045	
4-21-10	8.22	2	30	1.57			
	.25	5	"	1.577			
	.30	10	"	1.595			
	.40	20	"	1.60			
	.50	30	"	1.62			
	9.00	40	"	1622			
	.21	51	"	1637	912	787	
	.60	60	"	1642			
	10.00	100	"	1645			
	.20	120	"	1652	90	79	
	.40	140	"	166			
	11.00	180	"	1662			
	.20	180	"	167	89	79	
	.40	200	"	168			
	TP. 12.00	220	"	170			
	.20	240	"	170	90	797	
	.40	260	"	1742			
	1.00	280	"	1742			
	.20	300	"	1.75	905	797	
	.40	320	"	1.81			
	2.00	340	"	1.81			
	.20	360	"	1.81½	902	80	
	.40	380	"	1.81½			
	3.00	400	"	1.81½			
	.20	420	"	1.81½	95	802	-76

II ①

Date	Time	Min	Amp	Volts 398	Temps 398	Temps Idle	
			Discharge				
4/1/10	P.M. 3.20	~	open	1.057			
	25	0	30	1.055			
	27	2	"	1.025			
	30	5	"	1.095			
	35	10	"	1.267			
	45	20	"	1.314			
	55	30	"	1.315			
	4.05	40	"	130			
	25	60	"	1.299	935		
	45	80	"	1.252			
	5.05	100	"	1.235			
	25	120	"	1.225	92	785	
	45	140	"	122			
	6.05	160	"	1.207			
	25	180	"	1.192	915	775	
	45	200	"	1.187			
	7.05	220	"	118			
	25	240	"	1.157	922	777	
	45	260	"	1.122			
	8.05	280	"	107			
	15	290	"	102.5			
	25	300	"	100	945	78	-150
	35½	310½	"	942			
	45	320	"	89			

① B III

DATE	TIME	MIN	AMP	VOLT 398	TEMPS 398	TEMPS IDLE	
4-21-10	P.M. 8.55	330	30	1.37			
	9.05	340	"	69.5			
	15	350	"	50	97	78	-175
4-21-10	P.M. Cell disconnected from Board						
	After idle 1 day. 18 hr. 45 min.						
4-26-10	P.M. Connected in Endurance						
	for 46 min.						
5-21-10	P.M. Disconnected from Endurance						
	After idle 3 day 6 hr.						
5-24-10	P.M. Connected on Board for the						
	following min.						
			Charge # 63.3				
5/24/10	P.M. 10.20	0	30	Start Charge			
	11.00	30	"	86	725		
5/25	A.M. 1.00	150	"	85	82		
	3.00	270	"	885	80		
	5.00	390	"	89	80		
	7.00	510	"	907	76		
	9.00	630	"	92	765		
	11.00	750	"	945	78		
	P.M. 1.00	870	"	967	792		
	30	900	"	967	797		
	30	900	"	1817			-15 hr.

T3 III ⊙

Date	Time	Min	Amps	Volts 395	Temper. 398	Temper. 386	
			Discharge				
5/20/10	6 PM 1.23	—	open				
	.35	0	30	1.572			
	.37	2	"	1.455			
	.40	5	"	1.365			
	.45	10	"	1.342			
	.55	20	"	1.322			
	2.05	30	"	1.30			
	.15	40	"	1.285			
	.35	60	"	1.262	95	802	
	.55	80	"	1.237			
	3.15	100	"	1.217			
	.35	120	"	1.205	95	812	
	.55	140	"	1.20			
	4.15	160	"	1.197			
	.35	180	"	1.18	95	825	
	.55	200	"	1.175			
	5.15	220	"	1.16			
	.35	240	"	1.152	98	825	
	.55	260	"	1.122			
	6.15	280	"	1.105			
	.35	300	"	1.075	101	822	
	.45	310	"	1.045			
	.55	320	"	1.007			
	.56	321	"	100			— 126.5

Date	Time P.M	Min	Amps	Volts 395	T Temper. 395	T Temper. 386	REMARKS
5-25-10	7.05	330	30	96			
	.15	340	"	88			
	.25	350	"	765			
	.35	360	"	515	1035	82	
	~~.35 3693~~		"	50			— 180.2
5-25-10	P.M.		Charge off	634			
	8.10	0	30	on charge			
	40	30	"		95	812	
	10.40 AM	150	"		93	815	
5/26/10	12.40	270	"		945	81	
	2.40	390	"		95	807	
	4.40	510	"		91	81	
	6.40	630	"		94	81	
	8.40	750	"		98	805	
	10.40	870	"		98	805	
	11.10	900	"	182	98	805	— 15.2
			— DISCHARGE —				
5/26/10	AM 11.13	OPEN	—	156	98	805	
	.15	0	30	145			
	.17	2	"	138			N.5
	.20	5	"	136			
	.25	10	"	134			

BIII (1)

DATE	TIME	MIN	AMPS	VOLTS 398	TEMPS 398	TEMPS IDLE	
5/26/10	11.35	20	30	1.32			
	.45	30	"	1.297			
	.55	40	"	1.28			
	PM 12.15	60	"	1.255	975	81	
	.35	80	"	1.23			
	.55	100	"	1.22			
	1.15	120	"	1.205	965	82	
	.35	140	"	1.20			
	.55	160	"	1.19			
	2.15	180	"	1.18	917	83	
	.35	200	"	1.175			
	.55	220	"	1.162			
	3.15	240	"	1.14	98	835	
	.35	260	"	1.12			
	.55	280	"	1.105			
	4.15	300	"	1.062	102	84	54
	.25	310	"	1.017			
	.30½	315½	"	1.00			-15.7.7
	.35	320	"	977			
	.45	330	"	90			
	.55	340	"	77			
	.55	350	"	.605			
	5.05½	355½	"	50	975	845	-17.6.7

(1)

DATE	TIME	MIN	AMPS	VOLTS 398	TEMPS 398	TEMPS IDLE	
				Charge #63			
5/26.10	P.m. 600	0	30	30m Charge			
	10	30	"		1022	845	
	830	150	"		95	81	
	1130	270	"		95	82	
5/27.10	A.m. 230	390	"		945	82	
	230	510	"		95	815	
	430	630	"		96	805	
	630	750	"		95	792	
	830	870	"		96	777	
	930	930	"	1.037	96	78	-12-R
				Discharge			
5/27/10	A.M. 9.53	—	Open	158			
	.05	0	30	148			
	.07	2	"	140			
	.10	5	"	136			
	.15	10	"	134			
	.25	20	"	1.32			
	.35	30	"	1.30			
	.45	40	"	1.277			
	10.05	60	"	1.247	95	77	
	.25	80	"	1.225			
	.45	100	"	1.21			
	11.05	120	"	1.20	92	77	

Test III ①

Date	Time	Min.	Amps	Volts	Temp. 398	Temp. 398	Temp. Idle	
5/27/10	11.00 A.M.	140	50	1195				
	.15	160	"	1152				
	1.00	180	"	1172	922	77		
	.25	200	"	1157				
	.45	220	"	1142				
	1.05	240	"	1137	96	77		
	.25	260	"	1115				
	.45	280	"	1062				
	.55	290	"	1062	962	777		
	2.05	300	"	1037				
		307		1005				-153.5
	.15	310	"	982				
	.25	320	"	922				
	.35	330	"	86				
	.45	340	"	62				
	.52	347	"	50	947	777		-173.5
5/27/10	P.M.			CHARGE			※ 636	
	4.00	0	30		94	777		
	5.00	60	"		945	782		
	6.00	120	"		935	787		
	7.00	180	"		912	787		
	8.00	240	"		90	787		
	9.00	300	"		88	77		
	10.00	360	"		88	75		

Date	Time	Min.	Amps	Volts	Temp. 398	Temp. 398	Temp. Idle	
5/27/10	P.M. 11.00	420	-	1860	777	747		-7.5
	P.M.			Discharge				
	11.03	—	open	1562				
	.05	0	30	1467				
	.07	2	"	1402				
	.10	5	"	1365				
	.15	10	"	1345				
	.25	20	"	1307				
	.35	30	"	129				
	.45	40	"	127				
5/28	12.05 A.M.	60	"	129	865	74		
	.25	80	"	122				
	.45	100	"	1203				
	1.05	120	"	1201	905	74		
	.25	140	"	119				
	.45	160	"	118				
	2.05	180	"	1165	91	74		
	.25	200	"	116				
	.45	220	"	116				
	3.05	240	"	1157	905	74		
	.25	260	"	1157				
	.35	270	"	1155				
	.52	287	"	1150	90	74		-135.7

B3 ①

DATE	TIME	MIN	AMPS	VOLTS 398	T E M P S 398	1016
				Started with 6 days 8 hours run Saturday Sunday & Monday		
				Charge 1.227		
5-30-10	PM 1.00	0	30	1.567	78	78
	10	2	"	1.627		
	20	5	"	1.64		
	30	10	"	1.643		
5-31-10	PM 12.00	30	"	1.657		
	10	20	"	1.663		
	20	40	"	1.667		
	30	55	"	1.672	82	77.5
	40	50	"	[illegible]		
	50	[illegible]	"	168		
	1.00	[illegible]	"	1.665	842	77.5
	10	[illegible]	"	1.665		
	20	[illegible]	"	1.672		
	30	[illegible]	"	1.687	865	77.2
	40	[illegible]	"	1.677		
	50	[illegible]	"	1.68		
	2.00	230	"	1.685	88	77.2
	10	240	"	1.725		
	20	250	"	1.777		
	30	260	"	1.80		
	40	270	"	1.81		
	50	280	"	1.815		
	3.00	290	"	1.81		
	10	300	"	1.815		

DATE	TIME	MIN	AMPS	VOLTS 392	T E M P S 398	1016
5-31-10	AM 2.40	260	30	1.91	92	77
	50	270	"	1.85		
	3.00	400	"	1.82		
	10	420	"	1.82	942	77.5
				Discharge		
5-31-10	AM 6.42	—	open	1.58		
	45	0	30	1.48		
	47	2	"	1.40		
	50	5	"	1.352		
	55	10	"	1.367		
	7.05	20	"	1.32		
	15	30	"	1.29		
	25	40	"	1.26		
	45	60	"	1.25	925	77
	8.05	80	"	1.235		
	25	100	"	1.215		
	45	120	"	1.202	92	76.5
	9.05	140	"	1.197		
	25	160	"	1.184		
	45	180	"	1.177	92	76
	10.05	200	"	1.16		
	25	220	"	1.147		
	45	240	"	1.12	922	75.7
	11.05	260	"	1.07		

-7 Ra

CB3 ①

Date	Time	Min	Amps	Volts	T Compartment 398	T Compartment 398	T Compartment 399	
5/21/10	AM 11.15	270	30	1.022				
DH HW	.25	280	"	100	95	75		-140

Charge # 628

Date	Time	Min	Amps	Volts	T Compartment 398	T Compartment 398	T Compartment 399	
5/21/10	PM 12.45	0	30	1.58	887	745		
	.47	2	"	1.595				
	.50	5	"	1.60				
	.55	10	"	1.602				
	1.05	20	"	1.62				
	.15	30	"	1.605				
	.25	40	"	1.622				
	.45	60	"	1.65	905	75		
	2.05	80	"	1.66				
	.25	100	"	1.672				
	.45	120	"	1.65	87	75		
	3.05	140	"	1.677				
	.25	160	"	1.68				
	.45	180	"	1.682	87	75		
	4.05	200	"	1.70				
	.25	220	"	1.719				
	.45	240	"	1.737	875	747		
	5.05	260	"	1.762				
	.25	280	"	1.802				

Date	Time	Min	Amps	Volts	T Compartment 398	T Compartment 398	T Compartment 399	
5/21/10	1.45	300	30	1.822	90	75		
	6.05	320	"	1.855				
	25	340	"	1.84				
	45	360	"	1.842	922	752		
	7.05	380	"	1.835				
	25	400	"	1.837				
	1.15	420	"	184	95	752		-70.

Discharge

Date	Time	Min	Amps	Volts	T Compartment 398	T Compartment 398	T Compartment 399	
5-21-10	P.M 7.48	—	open	1.58				
	50	0	30	1.467				
	52	2	"	1.42				
	55	5	"	1.267				
	8.00	10	"	1.215				
	10	20	"	1.207				
	20	30	"	1.257				
	30	40	"	1.252				
	50	60	"	1.25	92	757		
	9.10	80	"	1.227				
	30	100	"	1.22				
	50	120	"	1.205	902	757		
	10.10	140	"	1.20				
	30	160	"	1.185				
	50	180	"	1.15	93	757		
	11.10	200	"	1.12				

B III O

Date	Time P.M.	Min	Amp	Volts 398	Temps. 398	Temps. Tdle	
5/31/10	11.30	220	30	1145			
	.50	240	"	112	915	757	
6/1/10	12.10 A.M.	260	"	1057			
	.20	270	"	100	935	757	-1.35
			"				
	A.M.			Charge	639		7 1.15
6/1/10	1.25	0	30	1184	90	757	
	.27	2	"	1575			
	30	5	"	158			
	35	10	"	160			
	45	20	"	1605			
	55	30	"	162			
	2.05	40	"	1625			
	25	60	"	165	90	755	
	45	80	"	166			
	3.05	100	"	1665			
	25	120	"	1665			
	45	140	"	1675	88	754	
	4.05	160	"	168			
	25	180	"	1685			
	45	200	"	1705			
	5.05	220	"	172			
	25	240	"	174	852	75	
	45	260	"	177			

Date	Time A.M.	Min	Amp.	Volts 398	Temps. 398	Tdle	
6/1/10	6.05	280	30	180			
	25	300	"	182	90	75	
	45	320	"	183			
	7.05	340	"	1837			
	25	360	"	184	98	75	
	45	380	"	1835			
	8.05	400	"	184			
	25	420	"	184			-7 1.2
				Discharge			
6/1/10	8.25	—	open	158	895	74	
	30	0	30	148			
	32	2	"	1407			
	35	5	"	1377			
	40	10	"	1347			
	50	20	"	1317			
	9.00	30	"	1295			
	10	40	"	1277			
	30	60	"	1242	87	72	
	50	80	"	1222			1 V
	10.10	100	"	1.21			
	30	120	"	1.20	877	73	
	50	140	"	1.197			
	11.10	160	"	1.192			
	30	180	"	1.177	91	74	

B III ①

DATE	TIME	MIN	AMPS	VOLTS SOB	TEMPS SOB	TEMPS IDLE	
6/1/10	11.50 AM	200	30	116			
	12.10 PM	220	"	114			
	.30	240	"	111			
	.50	260	"	106			
	1.05	275	"	100	94	75	-137.5
				Charge #640			
	P.M						
6-1-10	2.10	0	30	1542	88	755	
	12	2	"	158			
	15	5	"	1.585			
	20	10	"	1.60			
	25	20	"	1.617			
	40	30	"	1.62			
	.55	42	"	1.657			
	3.12	62	"	1.645	275	75	
	30	80	"	1.66			
	50	100	"	1.655			
	4.10	120	"	1.677	87	76	
	30	140	"	1.677			
	50	160	"	1.68			
	5.10	180	"	1.685	91	76	
	30	200	"	1.705			
	50	220		1.722			
	6.10	240		1.742	88	76	

B III ①

DATE	TIME P.M	MIN	AMPS	VOLTS SOB	TEMPS SOB	TEMPS IDLE	
6-1-10	8.30	260	30	1.772			
	50	280	"	1.802			
	7.10	300	"	1.822	90	76	
	30	320	"	1.835			
	50	340	"	184			
	8.10	360	"	184	97	76	
	30	380	"	184			
	50	400		184			
	9.10	420	"	184	94	76	-7R
	P.M			Discharge			
6-1-10	9.15	—	open	185			
	.15	0	130	145			
	.17	2	"	147			
	.20	5	"	135			
	.15	10	"	137			
	.35	20	"	132			
	.45	30	"	129			
	55	40	"	127			
	10.15	60	"	125	94	76	
	35	80	"	125			
	55	100	"	122			
	11.15	120	"	120	94	76	
	35	140	"	120			
	55	160		119.5			

B III ①

Date	Time P.M.	Min	Amps	Volts 395	Amps 395	Amps Idle	
6/2/10	12.15	180	30	1177	92	765	
	.35	200	"	116			
	.55	220	"	1142			
	1.15	240	"	1117	962	765	
	.35	260	"	1055			
	.45	270	"	1007			
	.45	270		100			-1305.7
	.55	280	"	965			
	2.05	290	"	905			
	.15	300	"	84	967	765	
	.25	310	"	74			
	.35	320	"	592			
	.40	325	"	50	97	765	-1625
6/2/10	PM	Disconnected from Tower and left idle indefinitely					
	2.30						

A4 #398.

Run	Charge	Dis.	Ampere-Hours 1V.	Ampere-Hours .5V.	Remarks
	See Runs*		1-165 in	Vols. I and II.	
166	7 hrs. @ 30	Ot 40	153.3	183.7	
167	"	"	152	184.7	
168	"	"	153.3	186.3	
169	"	"	133.3	170.7	Rested charged 36 hr.
170	"	"	153.3	186.7	
171	"	"	153.3	186.3	
172	"	"	153.3	185.3	
173	"	"	153.3	187.3	
174	"	"	154.7	186.7	
175	"	"	150	184	
176	"	"	146.7	183.3	
177	"	"	152	184.3	
178	"	"	155.7	185.3	
179	"	"	149.6	182.3	
180	"	"	129.3	163.3	Stand. charged
181	"	"	152	182.3	
182	"	"	152	183.7	
183	"	"	155.3	184.7	
184	"	"	153.3	183	
185	"	"	152	182	
186	"	"	155.3	185	
187	"	"	153	182.7	
188	"	"	151.3	182.7	
189	"	"	154	183	

Run	Charge	Dis.	Ampere-Hours 1V.	Ampere-Hours .5V.	Remarks
190	7 hrs. @ 30	Ot 40	153.3	182	
191	"	"	137.3	170	Stand. charged. (Impulse 50 amp)
192	15 hrs @ 30	Ot 120	194.5	220	
193	"	"	202	225.5	
194	"	"	205	227.5	
196	7 hrs. @ 30	Ot 40	158.7	168	
197	"	"	163.3	176.3	
198	"	"	165	182.7	
199	"	"	144.7	166.3	Stand. charged
200	"	"	162	177.7	
201	"	"	165.3	183.3	
217	7 hrs. @ 30	Ot 40	151.3	178.3	
218	"	"	154	180	
219	"	"	130	165.7	Stand. charged
220	"	"	146.7	176	
221	"	"	153.3	180	
222	"	"	151.7	177.3	
239	7 hrs. @ 30	Ot 40	148	168	
240	"	"	154.7	175	
241	"	"	125.3	153	Stand. charged
242	"	"	147.7	170.7	
243	"	"	150	149.7	
244	"	"	149.3	169.3	(50 Ind. amp)

Run	Charge	Dis.	*398 1V.	*398 .5V.	Remarks
245	15 hrs. @ 30	Oct 30	192.5	210.7	
246	"	"	185	204.7	
247	"	"	195	204.5	
248	7 hrs. @ 30	"	163.5	—	
249	"	"	166.5	—	
250	"	"	165.5	—	
	Removed electrolyte and washed cell free of sediment with 21 g. KOH; then put in 21 g. KOH + 30 g. LiOH per liter.				
251	15 hrs. @ 30	Oct 30.	195	219.5	
252	"	"	198	215.7	
253	"	"	199.2	215.5	
254	7 hrs. @ 30	"	163.5	—	
255	"	"	170.5	—	
256	"	"	174	—	
257	"	"	179.5	199.5	
258	"	Oct 40	161.3	176.7	
259	"	"	165.3	183.3	
260	"	"	162.3	181.7	
261	"	"	166.7	190.7	
262	"	"	161	180.3	
278	"	"	149.7	166	
279	"	"	130	153.7	Stopped chg'd
290	"	"	144.7	164.7	
291	"	"	150.7	170	
292	"	"	151	170.7	(Zn Fuel, Immersed)

Run	Charge	Dis.	*398 1V.	*398 .5V.	Remarks
293	15 hrs. @ 30	Oct 30	191.7	212.5	
294	"	"	188.5	210.5	
295	"	"	188	210.5	
296	7 hrs. @ 30	"	153.2	—	
297	"	"	147.7	—	
298	"	"	165.	—	
299	"	Oct 40	164.7	196	
290	"	"	153.3	181.7	
291	"	"	155.3	181.3	
292	"	"	148	167	
293	"	"	153.3	173.3	
302	"	"	144.7	165.7	
303	"	"	150	170.7	
304	"	"	143.7	163.7	
305	"	"	144	165.3	
306	"	"	143.3	164.3	(21 L.S.)
307	15 hrs. @ 30	Oct 30	176.7	194	
308	"	"	181.7	205.5	Pure alk
309	"	"	180.7	202.7	
310	7 hrs. @ 30	"	156.5	—	
311	"	"	159.5	—	
312	"	"	158	187	
313	"	Oct 40	153.3	180	
314	"	"	151.3	175.3	
315	"	"	148	170.3	

RUN	CHARGE	DIS.	398 IV.	398 SV.	REMARKS
316	7 hrs. @ 30	Ot 40	138.3	155	Stood chg'd each
317	"	"	148	171.3	
332	"	"	138.7	160.7	
333	"	"	145.3	166.3	
334	"	"	146	166	
335	"	"	146.7	165.7	
336	"	"	132.5	161.7	Stood chg'd 36 h.
355	"	"	142	160	
356	"	"	146.7	164.7	
357	"	"	141.3	160.	
358	"	"	132	154.7	Stood chg'd 36 h.
359	"	"	140	159.3	
360	15 hrs @ 30	Ot 30	174	192	
361	"	"	171.5	191	
362	"	"	175.5	193	Pur. sile
363	7 hrs. @ 30	"	146.5	—	
364	"	"	150	—	
365	"	"	146.5	171.5	
366	"	Ot 40	151.3	172.3	
367	"	"	130.	152.7	Stood Chg'd
368	"	"	146.7	166.7	
369	"	"	146.7	170.	
370	"	"	141.3	160.	
408	"	"	143.3	162.	
409	"	"	139.3	155.7	

RUN	CHARGE	DIS	398 IV.	398 SV	REMARKS
410	7 hrs @ 30	Ot 40	140.	156.7	
411	"	"	140.7	157.	
412	"	"	135.3	150.7	50 C.C.
413	15 hrs @ 30	Ot 30	170.	189.5	
414	"	"	177.5	195.5	
415	"	"	175.5	193.	
416	7 hrs @ 30	"	147.5	—	
417	"	"	149.2	—	
418	"	"	149.5	—	
419	"	"	151.7	175	
	Put in 2.1% KOH + 11.2 g KOH per liter.				
420	15 hrs @ 30	Ot 30	197.7	204	
421	"	"	178.	194.7	
422	"	"	174.5	195.7	
423	7 hrs @ 30	"	150	—	
424	"	"	154.5	—	(10 min. sunchg'd)
425	"	"	153.2	177.5	
426	"	@ 40	152	175	
427	"	"	138.3	157.3	
428	"	"	140	156.7	
429	"	"	141.7	163.3	
430	"	"	137.7	161.3	
468	"	"	133.3	153.3	
469	"	"	137.3	159.3	
470	"	"	133.3	158.7	

RUN	CHANGE	MIS	3 STD IV.	3 STD SV.	
471	7 Hun @ 30 @ 40		137.3	153.3	
472	"	"	133.3	148.7	
473	15 Hun @ 30 @ 30		177.5	195	TREV. IDLE
474	"	"	177	197	
475	"	"	175	191.5	
476	7 Hun @ 30	"	150.5	—	
477	"	"	153.5	—	
478	"	"	151.5	—	
479	"	"	152	146.5	
480	"	"	132	152	
481	"	"	133.3	153.3	
482	"	"	133.3	151	
483	"	"	138	153.3	
484	"	"	133.3	149	
521	"	"	131	144.7	
522	"	"	134.7	137.7	
523	"	"	129.7	145	TREV. IDLE
524	"	"	—	—	BAD RUN
525	"	"	134	149.3	
526	15 Hun @ 30 @ 30		120	128.5	
527	"	"	128	136	8 MIN. OVERCHANGE
528	"	"	137.7	152	
529	7 Hun @ 30	"	144.7	—	TREV. IDLE
530	"	"	144	—	
531	"	"	154.5	—	

RUN	CHANGE	MIS	3 STD IV.	3 STD SV.	REMARKS
532	7 Hun @ 30 @ 30		153	175	
533	"	@ 40	128	137.3	
534	"	"	126.7	146	
535	"	"	127.3	147	
536	"	"	132.3	155.3	
575	"	"	140.7	157.7	
576	"	"	140	160	
577	"	"	142.7	158.3	
578	"	"	140	160	
579	15 Hun @ 30 @ 30		175.5	193.5	TREV. IDLE
580	"	"	172.2	190.5	
581	"	"	172.7	193	TREV. IDLE
582	"	"	169.7	187.5	
583	7 Hun	"	146.7	—	
584	"	"	146.2	—	
585	"	"	148.5	—	(T.O.S. w line)
586	"	"	150	175	
587	"	@ 40	138	162	TREV. IDLE
588	"	"	140	155	
589	"	"	138.7	154.7	
590	"	"	138	153.3	
629	"	"	134.7	153.3	
630	"	"	134.7	152.3	
631	"	"	133.7	152.7	
632	"	"	134.7	151.7	

Analysis by Goldstein of the Electrolyte Removed from A4 #398 7/12/09, after 250 Runs.

Electrolyte put in originally was 21 % KOH + 120 g. SiOH per cell.

Specific Gravity 1.165 at 15°C.

Direct Determinations:

Total Alkalinity as KOH	17.920 %
KOH	14.860 "
SiOH	1.350 "
CO_2	0.475 "
SO_3	0.1630 "
HCl	0.0075 "

Calculated:

K_2CO_3	2.110 %
K_2SO_4	0.350 "
KCl	0.015 "

Sediment (removed by rinsing):

Total weight 42.852 g.

Contains Hg, Hg_2O, Ni, NiO, and Fe_2O_3. Also Fe, Ni, + Na on the Hg as amalgams.

Hg constitutes about one-half the total weight of sediment.

RUN	CHARGE	DIS.	398 16.	50%	
633	1 lb @ 30	@ 30	160.5	180.3	TPER. IDLE
634	- -	-	157.7	176.7	
635	- -	-	153.5	173.5	
636	7 lb. -	-	135.5	-	
637	- -	-	140	-	TPER. IDLE
638	- -	-	135	-	
639	- -	-	137.5	-	
640	- -	-	135.7	162.5	

For further runs see Vol. IV

Notebook, N-09-05-20

May 20, 1909

ENDURANCE BOOK —

Originated on the above date as a book in which to record readings of all "D4" cells connected in the Endurance Section for durability test in series.

The previous readings of each cell or group will be found in its individual record book.

Cells in this section get two runs per day on a regular schedule, as follows:

4.55 A.M. and P.M. — On charge for 7 hours at 30 amperes.

12.00 NOON and NIGHT — On discharge at 40 amperes, — each cell to be short-circuited when it reaches .50 volt.

Hourly temperature readings will be taken in one cell of each group.

DATE	TIME	MIN	NUM	484	488	481	482	483	396	398		466	467	468	478	479	480	TEMP folle	
	Change			122	75		(93)		(157	188		(104)		106		(106)			
5/20/09	4.55	0	20	110	111.		70.		120.7	112			119.			114.2		72.5	Emb.
	5.55	60	"	109	107.5		76.		110.7	111.5			113			108.7		72.5	"
	6.55	120	"	101.5	102.2		81		103.	105.5			107.			103.		72.5	"
	7.55	180	"	99.5	100.		84		100.5	103.2			103.2			101.2		72.5	"
	8.55	240	"	96.5	97.5		86.7		96.5	100			100.7			98.7		73	"
	9.55	300	"	95.2	96.2		88.2		95.	98.7			100.			97.5		73	"
	10.55	360	"	95	96.		91		95.2	98			100			97.5		72.5	"
	11.55	420	"	94.7	96.5		91.7		95.7	97.5			100.2			97.7		72.5	"
	11.55	420	"	100.2	129	125	125.5	125	121	129.5		127.5	127	129	127	129	129		
	Dec																		
5/21	12.00	0	20	144	142.7	142.5	141	141	142	142		142.2	140	140	139	138.2	138		
	.05	4	"	133	133	133	132.2	132.5	135	135		132.7	133.7	133	133	133	133		
	.10	10	"	131	131	130.2	130.2	131	132.2	132		131.5	131.5	131	131	131	131		
	.15	15	"	128.2	128.2	128	127.7	127.7	127.7	127.5		129	129	129	128.5	128.2	128.2		
	.20	20	"	128	128.5	128.5	128.7	128.2	128.7	128.5		128.7	128.5	128	128	128	128.5		
	1.00	60	"	122.2	122	122.2	122.5	122.2	122	122.5		122	122.5	122	122	122.5	122		
	1.00	60	"	98	99.5		96.7		97.5	100			102.7			100.2		71.7	Temp
	.05	65	"	120.2	120	121	121	121	121	120.2		121.5	121.5	122	121	121	120		
	.40	100	"	119	118.	120	120	120	119	119.2		120	120	121	119.5	119	119.2		
	2.00	120	"	117.7	117.	118.5	119	119	118	117.5		118.5	119	120.5	118.5	118	117		
	2.00	120	"	97.2	102		99		96.5	100.2			104.5			101.7		71.5	Temp
	.20	140	"	116.2	115.5	117.5	117.5	117.	117	116		117.5	118	119	117	117	116.5		
	.40	160	"	115	113.7	115.7	116	116	115	114		116	116	117.7	115.7	115	113		

DATE	TIME	MIN	AMPS	404	478	481	482	483	396	398		466	467	468	478	479	480	1265	
5/21/09	2:00	160	40	112.5	111	114	114	114	113	111.7		114	113.5	113	112.7	113	113.5		
	2:00	160	"	101	104		102.5		100	102.5			100			103.2		71.5	Temp
	.25	2:00	"	109.7	108	112	111.7	111.7	110	108		111	111.2	111	111	109.7	108.5		
	.30	2:10	"	109	106	110.5	110	110.5	108	108.7		109	110.3	112.2	109	109.7	109		
	.40	2:20	"	109.5	102.5	109	108.7	110.5	110.5	112		108.5	111.2	111	107	105	111.5		
	.45	2:25	"														113		150
	.50	2:30	"	101	100	107	106.5	108.2	108.7	100		108.5	108.5	108.5	108	108.7	108.2		153.3
	.55	2:35	"	100				110								100			156
	4:00	3:40	"	97.5	95.7	104.2	102	103	96.5	92.7		99	103.3	103	103	96	95.7		160
	4:00	3:40	"	104	107		104.7		103.5	105			110			105.7		72	Temp
	.10	3:50	"										100						160.3
	.20	3:60	"											110					161
	.25	3:65	"				100	103											164.3
	.30	3:70	"											50					165.7
	.35	3:75	"			110													166
	.40	3:80	"	93	97.5	103	97.5	92	95	92		97.2	97.7		95	93	92		166.7
	.45	3:85	"										50						170
	.50	3:90	"												50				170.7
	.55	3:95	"						50										171.7
	5:00	4:00	"	96	93.7	97	95	97.7		92		94				95	97		
	.05	4:05	"					50											173.7
	.10	4:10	"		109.5	109	108.7	110.5	110.5			110	113.5	112.2	106.7			72	Temp
	.15	4:15	"									50							176.5
	.20	4:20	"		50	50													176.7
	.25	4:25	"																178
	5:30	4:30	"	57.7			50									62	77.5		
	.35	4:35	"	50						64.5									180.7
	.40	4:40	"													50			181.7
	.45	4:45	"						50										182.7
	.50	4:50	"	107.5					107							109.2		72	TEMP
	.55	4:55	"														50		
	.55	4:55	"														50		188.3
	.55	4:55	"													109.2		72	Temp

DATE:	TIME	MIN	AMPS	404	488	481	482	483	396	398		466	467	468	479	479	480	1065	
5/21/71	change			123	96		(94)		158	159			(105	107		(107			
	4:55	0	30	110.5	114.7		114		112.5	110.7			114			112.5		72	Temp
	5:00	5	"	110.5	110.7		116		110.5	110.5			111.2			114		71.2	"
	5:05	10		102.7	107		112		110.7	110.5			104			114.5		71	
	7:55	160		99	102		99.7		97	101.5			103			103.7		70.7	
	8:55	220		96	99.5		97		95	98.2			101			98.2		70.5	
	9:50	275		94	97.7		96.2		93.5	96.5			99.2			96.7		70.7	
	10:55	330		93.2	96.5		94.7		93	96.5			98.5			96		70.7	
	11:55	390		94	96.7		95		94	96			98.7			96		71	"
	12:55	450		183	179	182.2	175	178	177	162.7		182.7	175.5	178.2	176.2	179	176.2		F.D
								E. Milhoney											
5/21	12.00	0	40	142	141.2	140.2	139.7	139.5	142.2	141.7		139.7	139.7	139.7	138.5	138.2	138		
	.04	4	"	134	133.7	133.	133	132.7	136	135.5		134	134.2	134	133.7	133.7	133.5		
	.10	10	"	131.4	131.5	130.7	130.5	130.2	132.5	132.2		131.7	131.7	131.5	131.2	131.2	131		
	.20	20	"	128.2	128.2	127.7	127.7	127.7	127.7	127.2		128.5	128.5	128.2	128	128	127.7		
	.40	40	"	123	122.2	122.5	122.7	122.5	122.6	122.5		127.7	127.5	127.5	127.5	127.5	127.2		
	1.00	60	"	122.2	121.7	122.5	122.5	122.2	123.7	122.5		123.5	123.2	123	122.5	122.5	121.7		
	1.00	"	"	96.7	98.2		98.2		96.5	98.5			97			99.2		71	Temp.
	.20	80	"	1.202	1.202	1.212	1.212	1.212	121	1.205		1.212	1.217	1.222	1.21	1.207	1.197		
	.40	100	"	1.19	1.177	1.20	1.20	1.20	1.195	1.19		1.202	1.20	1.212	1.197	1.19	1.177		
	2:00	120	"	1.177	1.17	1.187	1.19	1.19	1.187	1.177		1.19	1.19	1.202	1.187	1.18	1.167		
	2:00	"	"	97.	102.5		101.7		98.7	101.			103.7			100.7		71	Temp.
	.20	140	"	1.167	1.152	1.17	1.172	1.172	1.17	1.162		1.177	1.18	1.19	1.172	1.165	1.15		
	.40	160	"	1.152	1.137	1.157	1.157	1.157	1.16	1.15		1.16	1.167	1.177	1.157	1.152	1.13		

DATE	TIME	MIN	AMPS	464	468	481	482	483	396	398		466	467	468	478	479	480	TEMP Rdg	
5/21/09	3:00	180	40	1135	1117	1134	1137	1134	1142	1122		1142	1115	1122	1134	1132	1102		
	3:00	"	"	1100	1042		1037		1002	1027			1106			—		71	Temp
	:20	200	"	1097	1106	1112	1105	1111	1111	1085		1111	1117	1127	1105	1092	1106		
	:30	210	"	1072	1052	1100	1078	1089	1087	1057		1089	1110	1112	1087	1087	1027		
	:40	220	"	1045	1023	1077	1062	1076	1062	1027		1064	1068	1107	1062	1037	1000		146.7
	:50	230	"	1019	1000	1006	1042	1047	1025	1002		1049	1006	1089	1042	1012	972		153.3
	:51	231	"							1.00									154.
	:53	233	"													1.00			155.3
	:53½	233½	"	1.00															155.7
	:57½	237½	"						1.00										158.3
	4:00	240	"	972	945	1023	1001	1025	982	967		1000	1001	1022	1000	977	942		160.
	4:00	240	"	1034	1077		1007		1025	1006			1092			1049		71	Temp
	:03	243	"				1.00						1.00						162.
	:04	244	"											1.00					163.7
	:05	245	"					1.00											163.3
	:07	247	"			1.00													164.7
	:10	250	"	973	889	977	957	962	905	933		937	877	x 0	887	925	907		166.7
	:16½	256½	"										.50	✓	.50				171.
	:20½	260½	"					.50							✓				173.7
	:21	261	"	86	.68	.76	81	.50	✓	857		75				832	85		174.
	:26	266	"		.50	.50	✓												177.3
	:27½	267	"			✓	.50					.50	✓						178.
	:30	270	"	.537			✓			.65						.545	.545		
	:31	271	"	.50												.50			180.7
	3:41½	271½	"							.50						✓			183.
	:41	281	"							✓							.558		187.3
																	✓		

DATE	TIME	MIN	AMPS	404	488	481	482	483	396	398		466	467	468	478	479	480	TEMP Dallas	
	Charge			124	77		(95)		159	190		(106)		108		(108)			
	PM																		
5/21/09	4.55	0	30	113.2	117.		115.		112.2	114.7			116.5			113.2		71.	Temp
	5.55	60	"	107.2	112.		109.		107.2	111.			112.2			109.		71	"
	6.55	120	"	103.	108.5		105		103	107.			109			104.7		71.2	"
	7.55	180	"	99.5	104.		101.5		99.	102.5			105			101		71.2	"
	8.55	240	"	96.5	99.5		97.7		95.7	99.5			101.5			98.5		71.5	"
	9.55	300	"	95.5	98.2		96.7		94.7	98.2			100.7			97.5		72	"
	10.55	360	"	94.5	97.2		96.		94.	97.2			99.5			96.7		72	"
	11.55	420	"	95	98		96.2		95.7	97.5			100.2			97		72	"
	11.55	420	"	178	178	175.2	175	176	182	179		178	177	179	177	178.2	178.2		
							Discharge												
5/22	AM																		
	12.00	0	40	146	145	143.7	143	145	145.5	144.7		143	145	145	142.2	144.7	145		
	.01	4	"	134	133.7	133	132	133	132.7	134		134.2	133	133.2	132.2	134	133.7		
	.10	10	"	131.5	131.5	131	131.1	131	133	133		132.2	132	132	132	132	132		
	.20	20	"	128.5	128.2	128	128.2	128	128	131		129	129	128.5	129	129	129		
	.40	40	"	125.5	125	125	125.5	125	126	126		126	126	126.2	125.7	126.7	125		
	1.00	60	"	122.5	123	122	123	123	123.5	123		123.7	123	124	123	123	122		
	1.00	60	"	95	103.7		101		97.7	100			102.5			101.2		72	Temp
	.20	80	"	122.7	120	121	121.5	121	121	120.7		121.7	122	122	121	121	120		
	.40	100	"	119	119.2	120	120	120	119.7	119		120	120	120.7	120	118.5	119.2		
	2.00	120	"	115	115.5	115	116.5	116	115.5	117.5		117	117	120	117	115.2	117		
	2.00	120	"	99	103		101.7		97.7	100.7			104.5			101.7		72	Temp
	.20	140	"	114.7	114	117	117	117	117	116		117.5	117.5	119	117	117	115.5		

DATE	TIME	MIN	AMPS	404	488	481	482	483	394	398	466	467	468	478	479	480	TEMP fdh	
5/22/07	2.00 AM	100	80	115.5	112.5	112.5	115	115.5	116	114.5	114	116.5	114	112	115.5	113.5		
	2.30	130	"	113	111	113	112.5	113	113.7	112	114	115	113.5	114	113	113.5		
	3.00	160	"	101	104		104		99.5	102.5		105.5			102.5		71	Temp.
	.20	2.00	"	109	107	110	113	112	110.5	112	111	112	114	111	105.5	102		
	.41	2.21	"	124	112	116.5	125	117	116	102.5	106.5	106.5	111	107	105	103.5 / 100		148.3
	.47	2.27	"			100												150.
	.50	2.30	"	100	97.7	114	101.7	114	102.5	100	103	105	105	106	111	97.5		153.3
	.55	2.35	"												100			156.7
	.58	2.38	"				100		100									157.3
4.00	3.40	"	97	93.7	101	98	111	95	96		100	100	101	100	97.5	94.5		160.
4.00	3.41	"	103.5	103.7		104.7		102.5	104.5			103.5	100		105.5		71	Temp.
.11	3.41	"																160.7
.10	3.42	"																162.3
.20	3.44	"			100		100											162.7
.27	3.47	"									97.7	92	50					165.
.29	3.49	"	92	96	94	97.7	92	87.7	91					98.5	92	91.5		Temp.
.32	3.52	"										50						170.
.36	3.56	"											50					171.
.40	3.60	"										111	109.5	105.5			71	Temp.
.42	3.62	"						50										173.
.45	3.65	"	85	75.5	75	71			50	84.5	75	✓	✓	✓	85	86		173.3
.50	3.70	"			50													174.3
.52	3.72	"				50												175.3
.55	3.75	"			50													175.7
.57	3.77	"									50							176.3
.58	3.78	"		110.5	110	109.5	109.5	105			108.5						71	Temp.
.59	3.79	"	50								✓							179.7
.59	3.79	"			✓	✓	✓	✓	58.5						55 / 50	72.5		181.3
.59	3.79	"							50									182.
.59	3.79	"													110		71	
.59	3.79	"	106.5						106.5						✓	50		186.7
.59	3.79	"							✓							107.5	71	Temp.
.59	3.79	"														✓		

DATE	TIME	MIN	AMPS	404	488	481	482	483	396	398	466	467	468	478	479	480	TEMP Adk
5/22/09			6 hours	122	76		(78)		120	121		(122)	109		109		
	AM 4:25	0	"	122	112		114.5		112.5	110		112.2			114.5		79.7
	5:25	60	"	102.5	111.5		102.7		100.2	107		102.7			102.7		70
	6:25	120	"	103	102.7		102.7		100.2	106		102.5			105.2		70
	7:25	180	"	98.5	100		98.5		97.5	101		100.7			100.7		70
	8:25	240	"	95.5	98.7		96.2		95.5	97.7		100.2			97		70
	9:25	300	"	93	96		94.7		92.7	96		98.5			95		69.7
	10:25	360	"	92	95		94		92.5	94.5		97.7			94.2		69.7
	11:25	420	"	92.2	94.2		93.2		92.5	94.7		98			95		68.7
				121	1792	1772	176	177	1823	1772	177	1782	1782	1785	179	179.7	
			Stood thirty min (+2) hours								over discharge						
			Discharge														
5/27	PM 12:00	0	40	125	127	127	122.5	122.5	129.5	125.5	126	122.5	126.5	122.5	125.7	127	69
				124.7	79		69.5		69.7	69.5		69.7			69.7		
	:04	0	"	121.7	121	121.7	122	122	122.5	123.7	127.7	122.7	122	123	122	122	
	:10	10	"	120	119	120	120	120	122	120.5	120	119.7	120	121	120.2	120.5	
	:20	20	"	119	117.7	119	119	119	121	120	119.5	119.5	119.7	120	119.5	119.5	
	:40	40	"	117	115.7	117.5	117	117.5	119.5	117.7	117	117	117.7	117	117.7	117	
	1:00	60	"	116.2	115	117	117	117	117.5	116.2	117.2	117	117.2	117.7	116.5	116	
		80	"	76.2	79		79		76.7	76.5		79.5			79		69.5
	:20	80	"	115.5	117.7	115	116.2	116.2	116.2	115	115.7	116	117.7	116.2	115.7	115	
	:40	100	"	115	113	115.5	115.5	115.7	115.7	114	115	115.5	117	116	115	114	
	2:00	120	"	114	115	114	114	114	115	113	114	114.5	116	114.7	114.7	113	
	:00	120	"	85.5	88		86.5		85.7	86.7		87.5			87		69.5

DATE	TIME	MIN	AMB	464	478	481	482	483	396	398		466	467	468	478	479	480	Temp date
5/29/73	AM																	
	2:20	145	45	112	111	112.2	112.7	112	112.7	111.7		112.2	114	115	112.5	112	111	
	.40	155	"	111	108	111	112.7	112.2	112	112.5		114	112.2	112.2	112.7	111	112.7	
	.50	165	"		107		108.2			111							107	
	3:10	205	"	113	112	109.7	111	108	109.7	112.5		112.7	111.7	112	112	111	112	
	3:10	215	"	111.7	94		93		91.5	92.5			94			94		91.7 Temp
	.20	225	"	110	110	112.5	112.5	111	110	114.2		112.2	112.7	112	112	110	112	
	.30	235	"	112.2	112.7	112	112.5	112.5	112	111.7		112.7	111	112.2	112.2	112.5	112.7	
	.40	245								110								- 135
	.50	255			100													- 137.3
	4:00	265		110	99	110	112.5	112.7	112	112.2		112.5	112	112.7	112.7	112.2	112.7	
	.20	285			100		100											- 145
	.30	295		111	97	110	97	112.5	111	112.2		102	112	112	112.2	112	112	- 146.7
	.40	305													112.5			- 147.7
	.50	315		112				110										- 148.7
	5:00	325										111	112	110				- 151
	.10	335		95	112	112.7	97	112.5	112.5	112.5		112.5	112.5	112.5	112.5	112	112.5	- 154.3
	.20	345												110				- 159
	.30	355											50					
	4:00	415		92	112.7	110	110.7	112.5	111	112.5		112.7			112	112	112.7	
	[illegible]	425		97	110.5		110.5		112	97			112.2	112.7	112.7	112.2		70 Temp
	.20	435												50				- 162.3
	.30	445						50					✓	✓	✓			- 163
	.40	455				50												- 164
	.50	465					50		50									- 164.3
	5:00	475			50							50						- 166
	.10	485		111.2			✓			112						112.5	112	
	.20	495							✓									70 Temp
	.30	505				109		112		50		111.2						- 170
	.40	515		50		✓		✓				✓				50		- 173.3
	.50	525		99.7						101						112	112.7	70 Temp
	6:00	535								✓						✓	50	- 173.3
	6:10	545															112	70 Temp
																	✓	

Cells 396 & 398 will now run on regular large cell board for several 15 hour charges. See results in regular books.

DATE	TIME	MIN	AMPS	464	468	471	472	473	466	467	468	478	479	480	TEMP Delle	
5/24/08	[illegible]	1.8	[illegible]	126	79		(97)		(107)		110		(110)			
	4:55	"	20	123	1124		1125			1025			104		70	
	5:55	60	"	122	97		1027			1025			103		70	
	6:55	120	"	98	1125		97.5			97.5			97.5		72.5	
	7:55	180	"	96.2	101		96.5			97			97		74	
	8:55	240	"	94.5	98		96.5			96.7			94.5		75.5	
	9:55	300	"	94.5	98		94.5			95.5			95		77.2	
	10:55	360	"	94.2	97.2		95			96			95.5		72.5	
	11:55	420	"	96	98.2		96			98.2			96.7		73	
	11:55	420	"	180	176	127	172	176	180	179	179	177	178	179	VOLT READING	
5/25/08	Discharge			#126	#79		#97		#108		#110		#110			
	12:00	0	40	144	132	124	142	147	143	132	127	127	141	136		
	:04	4	"	130.5	132	127	132	137	130	132	132	132	132.5	132		
	:10	10	"	130.5	130.5	130	130	130	130	131.2	131	131	131	130		
	:20	20	"	128	128	127	128	127	128	128	128	128	128	128		
	:40	40	"	125	125	124	125	124	125	125	126	125	125	124		
	1:00	60	"	122	127	125	127	125	127	133	124	125	125	127		
	1:00	"	"	99.5	100		101.5			100			101.5		74.5	Temp.
	:20	80	"	120.5	119	121	121.2	121	120	121	122.5	121	120	119		
	:40	100	"	119	118	120	120.2	120	119	120	122	120	119.5	118		
	2:05	125	"	118	116	118	118.5	118	118	117	120.2	118.5	118	116.5		
	2:05	"	"	107	106		105			106.7	106.7		104		75.2	Temp.
	:20	140	"	116	115.5	116.5	116.5	116.5	117	118	119	117	116.5	116.5		
	:40	160	"	117	117	116.5	116.5	116.5	116.5	116.2	117	116.5	116.5	116		

DATE	TIME	MIN	AMPS	466	478	481	482	483	466	467		468	478	479	480	TEMP Idle	
5/21/09	3:00	180	40	1.120	1.102	1.125	1.122	1.127	1.135	1.145		1.116	1.137	1.127	1.102		
	3:00	"	"	1.06	1.07		1.087			1.10				1.064		757	Temp.
	12:00	200	"	1.09	1.064	1.077	1.087	1.10	1.10	1.12		1.137	1.102	1.075	1.06		
	1:30	210	"	1.064	1.07	1.072	1.062	1.082	1.08	1.102		1.122	1.09	1.072	1.032		
	1:45	220	"	1.032	1.01	1.062	1.054	1.062	1.055	1.08		1.104	1.062	1.042	1.002		
	1:50½	220½	"												1.00		149
	1:55½	221½	"		1.00												149.7
	2:00	230	"	1.002	.998	1.042	1.022	1.042	1.022	1.047		1.022	1.042	1.012	.98		
	2:01	231	"	1.00										1.00			154
	2:15½	232½	"														156.
	2:30½	233½	"						1.00								157.
	2:37½	237½	"				1.00										158.3
	2:39½	239½	"										1.00				159.7
4/100	2:40	"	.97	.987	1.01	.987	1.007	.977	1.00			1.00	.987	.977	.982		160
	4/100	240	"														
	.02½	240½	"	1.10	1.13		1.14			1.152				1.11		762	Temp
	.03½	243½	"					1.00									161.7
	.05½	245½	"														162.3
	.07	247	"			1.00											164.7
	4/10	250	"	.927	.964	.925	.922	.902	.91	.80		.50	.78	.925	.922		
	.14	254	"							.50							169.3
	.15	255	"									✓	.50				170.
	.17½	257½	"					.50					✓				171.7
	.19½	259½	"			.50				✓							173.
	.20	260	"	.879	.625	✓	.50	✓	.68					.857	.897		173.3
	.22	262	"		.50												174.7
	.23	263	"				✓		.50								175.3
	.30	270	"	.50					✓				.50	.652	.762		180
	.31	271	"														180.7
	.32	272	"											✓	.50		188.
															✓		

DATE	TIME-MIN	AMB.	484	481	482	482	466	467	468	478	477	480	TEMP IDLE	
5/134	Recharge #	127	80		(98)		(109)		111		(111)			
	PM 1/55 0	30	117.5	120		121		122.7			119.5		76.5	Temp
	55 60	"	115.5	119		114.2		116.			113.5		76.5	"
	6/55 120	"	108.5	112.5		107.2		109.5			107.5		77	"
	7/55 180	"	105.7	109.2		103.7		107.5			105.		76.7	"
	8/55 240	"	102.7	106.		102.		104.			103		76.2	"
	9/55 300	"	100.	103.5		99.5		102.2			101.7		74.7	"
	10/55 360	"	99.5	102.2		99		100.7			99.7		74.5	"
	11/55 420	"	99	102		99		100.7			99.5	"	74	"
	11/55 480	"	97.5	101	97.5	97.5	97.7	100	97.2	99	97.7	97.5		VOLT READING
						Discharge								
5/25	P 12.00 0	40	145	140	143	141.5	137.7	142.7	137.2	142.5	140.2	137.7		
	.04 4	"	133.7	133.7	133.5	133	133	134	133.2	134	133.7	134	133.7	
	.10 10	"	131.7	131.7	131	131	131	132	132	132.5	132	132	132	
	.20 20	"	129	129	128.5	128.5	128.5	129	129.5	129.5	129.5	129	129	
	.40 40	"	125.5	125.5	125.5	125	125	126	126	126.2	125.7	125.5	125	
	1.00 60	"	123	122	123	123	123	123	123.5	123	123	123	122	
	1.00 160	"	121.5	120.5		120.5		123.5			121.5		73.7	Temp
	.20 80	"	122.5	119.7	121	121	121	121.5	121.7	122.5	121	122.5	122	
	.40 100	"	119.5	117	120	120	120	120	120.2	121.7	120	119.5	118.2	
	2.00 120	"	118	116.2	117.7	118.7	118.5	119	119.5	120.2	119	118.2	117	
	2.00 124	"	103.5	108		109.7		109.5			103		73.7	Temp
	.20 140	"	116.2	114.7	116.2	116.2	116.5	117	117.7	119	117	117	115.5	

DATE	TIME	MIN	AMP.	464	468	481	482	483	466	467		468	478	479	480	TEMP hole	
2/22/93	2:00 PM	1:00	40	119.2	112	114	114	115	115.7	116		117.2	115.7	115	115		
	3:00	1:00	"	117.2	113.7	112	111.5	113	114	115.5		116	113.7	113	113.2		
	3:02	1:00	"	125.5	117.7		117			117				125.2		74	Temp
	:20	2:00	"	129	127.5	127	127.7	127.7	127	127.7		127.7	127.7	127.7	127.7		
	:30	2:10	"	130.2	127.5	127	126	127.5	127	127		127.2	127	127.2	127		
	:40	2:20	"	132	130	125	123	126	126.2	126		127.5	127.5	127.2	127.2		146.7
	:50	2:30	"	130	127.7	122	120	122.2	123	125.5		127.7	127.7	127	127		153.3
	55	2:35	"			120								128			156.7
	57	2:37	"														157.7
	58	2:38	"						128			128	127				158.7
	59	2:39	"														159.3
	3:00	2:40	"	92.2	97	97	96	100	97.5	100		97	97	97	97		160.
	4:00	3:40	"	117	112.5		109.2			110.5		110.2 50		108		72	Temp
	:05	3:45	"														163.3
	:10	3:50	"	92	82.2	92.2	86	87	92	72.5 50			75.7	92	92.5		
	:15	3:55	"									✓	50				169.7
	:17	3:57	"					50									170.
	:22	4:02	"			50				✓							171.3
	:27	4:07	"				50										171.7
	:32	4:12	"	55	50			73						72	55.7		172.
																	173.3
	:40	4:20	"			112.5	114	112.7	112	112.5 50			109.7			73	Temp
	:42	4:22	"										✓				176.
	:47	4:27	"	50		✓	✓	✓						52 50	75.5		180.
	:50	4:30	"						✓					112		73	180.3
	:50	4:30	"	112.2										✓	51.7 50		Temp
	:40	2:30	"												✓		187.
	:45	2:35	"														

DATE	TIME	MIN	AMPS	464	465	481	482	483	466	467	468	478	479	480	TEMP. Idle	
5/2/[illegible]				122	121		(99)		(110)		112		(112)			
	4:[illegible]		50	113.2	124.5		112			112			112		73	Temp
	[illegible]			114.2	117.5		112			112			112.2		73	"
	[illegible]	120		102.2	112.5		105.5			105.5			105.5		73	"
	[illegible]	240		102.7	108.5		102.2			102.2			102.2		72	"
	[illegible]	240		105	106.2		100.2			102			100		72	"
	[illegible]	360		100	102.5		98.7			100.2			98.5		74	"
	[illegible]	360		99	103		99			99.7			98.7		74.5	"
	[illegible]	420		100	103.5		99			101.5			99.2		75	"
	[illegible]	420		102.7	105.5	102.7	102.2	102.5	102.2	102.2	102.7	102.2	102.7	102.7	VOLT READING	
5/2/[illegible]	Discharge			128	131		(99)		(110)		112		(112)			
	12:00	0	70	129.5	139.7	130.5	128.5	128	132.7	132.7	130.5	128.7	128.5	128.5		
	:04	4	"	133.7	132.5	133	132.5	132.5	132.7	133.7	133.7	133.5	132.5	132		
	:10	10	"	130.7	130.5	130.2	130.7	130.5	132.5	132.2	131	130.7	130.5	130.5		
	:20	20	"	128.2	128.1	128.7	128	128.7	128.2	128.5	128.4	128.2	128.1	128.1		
	:40	40	"	126.2	126.2	126.7	126.5	126.7	126.5	126.5	126	126.2	126.5	126.7		
	1:00	60	"	122.2	122.2	122.5	122.5	122.5	123	123.4	122.1	123	122.2	122.7		
	1:00	"	"	103	106.7		104			104.5			104		76	Temp.
	:20	80	"	120.2	118.5	121	121.2	121.2	121	121.7	122.7	121.2	120.5	119.9		
	:40	100	"	119.2	117	119.7	120	120	120	120.2	121.7	120	119.5	119.2		
	2:00	120	"	117.7	115.2	118	118.2	118.2	118.5	117.2	120.2	118.5	118.2	117		
	2:00	"	"	105	110		107.5			107.7			106.7		77	Temp.
	:20	140	"	116.7	115.5	116.2	116.5	117	116.5	116	119.2	117.7	116.7	115.7		
	:40	160	"	116.2	115.5	116.2	116.2	116.7	116	116.2	117.5	116.7	116.5	115		

DATE	TIME	MIN	AMPS	464	465	481	482	483	466	467	468	478	479	480	TEMP Bdbs	
5/20/07	3:00	180	70	1.122	1.08	1.172	1.117	1.13	1.142	1.145	1.162	1.14	1.135	1.105		
	3:00	"	"	1.09	1.137		1.11			1.12			1.09.7		78	Temp.
	120	200	"	1.092	1.025	1.09	1.09	1.10	1.115	1.122	1.14	1.105	1.097	1.062		139.3
	129	207	"		1.00						1.125	1.09	1.072	1.039		
	130	210	"	1.064	.977	1.072	1.059	1.08	1.077	1.085	1.107	1.07	1.072	1.01		
	140	220	"	1.037	.962	1.025	1.022	1.062	1.072	1.087				1.00		150.3
	145½	225½	"	1.002	.935	1.025	1.005	1.037	1.04	1.057	1.08	1.04	1.01	.992		154.
	150	230	"	1.00												154.7
	151	231	"				1.00						1.00			156.3
	152	232	"													158.
	154½	234½	"			1.00						1.00				159.7
	154½	235½	"													160.
	159½	239½	"								1.00					160.3
	4:00	240	"						1.00	1.000						161.
	4:00½	240½	"					1.00								
	4:01½	241½	"						.962	.972	.950	.91	.940	.94		163.3
	4:05	245	"	.945	.825	.937	.94									
	4:05	"	"	1.13	1.167		1.16			1.162	✓		1.172		79	Temp.
	4:10	250	"	.92	.693	.925	.88	.822	.925	.672		.717	.925	.93		168.3
	4:12½	252½	"							.550						168.7
	4:15	255	"		.550							.550				169.7
	4:17½	257½	"						.550	✓		✓				170.
	4:20	260	"			.550										170.3
	4:22½	262½	"				.550	✓								171.7
	4:25	265	"			✓	✓		.606				.80	.877		
	4:27½	267½	"						.550							174.7
	4:30	270	"	.785												177.
	4:32	272	"	.550									.550			179.
	4:32½	272½	"						✓					.777		
	4:35	275	"											.550		187.3
	4:37½	277½	"											✓		
	4:40	280	"													
	4:41	281	"													

DATE	TIME	MIN	AMPS	404	488	481	492	483	466	467		468	478	479	480	TEMP Sola	
5/24/09	Charge			#129	#82		(#100)		#111			#113		(#113)			
	4:55	0	30	1204	1262		1242			1242				123		Sola	Temp
	5:55	60	"	112	123		1165			119				116		80	"
	6:55	120	"	111.5	116		109.2			111.5				109.5		78.5	"
	7:55	180	"	107	112		105			106.5				105		78	"
	8:55	240	"	104.	109.		103.			104.5				103.5		77.7	"
	9:55	300	"	101.7	106.		100.7			103.				101.7		77.5	"
	10:55	360	"	101.	104.5		100.			102.				101.		77.2	"
	11:55	420	"	100	104.		100			102.5				101.2		77	"
	11:55	"	"	177	175	1732	1732	1742	1782	176		1772	1757	1757	176	VOLT READING	
							Discharge										
5/26/09	AM 12:00	0	40	1.447	1.43	1.422	1.422	1.405	1.42	1.42		1.42	1.40	1.397	1.39		
	04	4	"	1.337	1.337	1.33	1.33	1.32	1.337	1.337		1.33	1.332	1.332	1.332		
	10	10	"	1.31	1.307	1.307	1.305	1.302	1.31	1.31		1.31	1.31	1.31	1.31		
	20	20	"	1.262	1.27	1.27	1.27	1.26	1.29	1.29		1.29	1.29	1.29	1.27		
	40	40	"	1.25	1.24	1.245	1.25	1.245	1.255	1.257		1.26	1.25	1.25	1.245		
	1:00	60	"	1.225	1.21	1.225	1.23	1.23	1.23	1.27		1.225	1.24	1.23	1.22		
	1:00	60	"	1.03	1.06		1.055			1.045				1.03		74.7	Temp
	20	80	"	1.20	1.185	1.21	1.21	1.21	1.21	1.215		1.222	1.21	1.205	1.26		
	40	100	"	119	116.5	119.5	119.5	120	120	120		121.7	120	119.5	119.2		
	2:00	120	"	117.7	115	117.7	117.7	118.2	117.5	119		120	115.5	118	116.5		
	2:00	120	"	104	109		108			106.5				104.5		76.5	Temp
	20	140	"	116.2	117	116	116	117	117.5	118		119	117.5	117	115		
	40	160	"	114	109.7	113.5	113	114.5	115.7	116		117.5	115	114.5	112		

DATE	TIME	MIN	AMPS	404	438	481	482	493	466	467	468	478	479	480	TEMP Delta	
5/25/09	2:00	180	40	117.7	113	112.5	112	112	112.5	112	117.5	112	112.5	113		
	2:30	149		117	111		117			112			112.5		75	7 min
		137			112.5											
	3:00	120		117	112	117	112.5	111.5	111.5	111.5	117.5	111.5	112.5	114		133.3
		110		112	111	112.5	112	111	111	111	112	111.5	112	112		
		96												110		145.3
	4:00	260		112	95	112.5	112.5	114	116	117	112.5	112.5	112.5	77		
		141					111									149.3
		111		113		113										152.
		237		112	97.5	112.5	97	111	112	112.5	112.5	112.5	112.5	95		153.3
		235						110	110			110				156.7
		237									110					159.3
	5:00	240		94	95	95.5	92	96	97.5	110	95	95.5	94.5	89		160.
		271		117	115		115			111	110.5		117.5		75	7 min
		211									50					162.7
		224		88.5	50	57	65	59	65	50		50	59	89		166.7
		260				50					✓					169.3
		225						50								168.3
		225					50									170.3
		225			115	115	115	114		115		117.5			75	7 min
	6:00	260		71		✓	✓	✓	55.5 50	✓		✓	70.5	112		174.3
		261														176.
		261		50									50			177.3
		261		112.5					110 ✓				112.5		75	7 min
		261											✓	65		
		270							✓					50		184.3
		270														
	6:30	270												111	75	7 min
														✓		

Cells #466–468 were removed and connected up on testing-board for overcharge tests. See 5/26/09 in individual record-book.

DATE	TIME	MIN	AMPS	464	468	481	482	483	478	479	480	TEMP Sulle	
5/24/[illegible]	Discharge			120	[illegible]		(101)			(117)			
	4:25	5	30	119	122.5		117.5			117.5		75	Temp
	[illegible]	[illegible]	"	112.5	117.5		111			110		76	"
	[illegible]	[illegible]	"	115	119.5		108			107		76	"
	[illegible]	[illegible]	"	107	111		105.5			105		76.5	"
	8:[illegible]	240	"	103.7	107.7		102.2			100.7		76.7	"
	9:[illegible]	[illegible]	"	100.5	107.2		99.2			98		76	"
	10:[illegible]	360	"	98.7	102		97.5			96		75.2	"
	11:[illegible]	420	"	98	101.7		97			95.5		75.2	"
	[illegible]	[illegible]	"	176.5	179.2	172.7	173.2	179.2	176.2	178.2		177.2	VOLT READING
	Discharge												
5/26	12:00 P.M.	0	40	124.2	124.2	123.2	123.5	123.5	124	124.2		124.2	
	:04	4	"	133.7	133.5	133.2	133	133	133.7	133.7		133.5	
	:15	15	"	120	129.5	129.5	129.2	129	129.7	129.7		129.5	
	:20	20	"	128.2	128	128	128	127.7	128.2	128.2		128	
	:40	40	"	125	127.2	127.5	127.5	127.5	127.5	127.5		127.2	
	1:00	60	"	122.2	122.2	122.2	122.5	122.5	122.5	122.2		122.7	
	1:00	"	"	100.5	102.5		100.7			98.7		75.7	TEMP
	:20	80	"	120.5	117.2	121.2	121.2	120.7	120.5	120.5		119.7	
	:40	100	"	118.2	116.5	118.2	119.7	119.7	118.2	118.5		117.7	
	2:00	120	"	117.2	114.7	117.7	118.2	118	118	117.5		116.2	
	2:00	"	"	101.2	106		102.5			101		75.7	
	:20	140	"	116	112.7	116	116	116.2	116.5	116.2		114.6	
	:40	160	"	114	110	113.7	113.5	114	115.2	114.7		112.2	

DATE	TIME	MIN	AMPS	404	488	481	482	483	478	479		480	TEMP Jelle	
5/26/09	3:00	180	40	112	1062	1107	1102	1117	113	1122		1087		
	3:00	"	"	1037	1025		1045			1022			2050	TEMP
	:20	200	"	1087	101	1077	1062	1082	110	1095		104		137
	:25½	205½	"		1.00									
	:32	212	"	105	.9772	105	1027	1057	1077	1052		1012		144
	:36	216	"									1.00		
	:41	221	"	107	.945	1022	1015	104	106	1022		.971		149.7
	:41½	221½	"				1.00							152.
	:42	222	"	100						100				152.7
	:44	224	"											153.3
	:50	230	"			100								157.
	:50½	230½	"					100						157.
	:57½	237½	"						100					158.3
	4:00	240	"	.955	.8655	.932	93	.96	.972	.945		.922		
	4:00	"	"	107	111.5		1095			1027			75	TEMP
	:14	254	"		50				50					169.3
	:15½	255½	"			50		50		✓				170.3
	:17½	257½	"				50							171.7
	:21½	261½	"	50										178.3
	:27½	267½	"			✓	✓	✓		50				179.7
	:30	270	"							✓		.692		
	:38½	278½	"									50		185.7
												✓		
5/26/09	Charge			#131	#84		102			(#145)				
	4:55	0	30	103	111.5		1025			109			74.5	Temp
	5:55	60	"	109	112.7		108			1067			74.2	
	6:55	120	"	105	111.2		103.5			103.			74.5	"
	7:55	180	"	101.2	107.7		100.7			100			74	"
	8:55	≈40	"	97.5	104.2		97.5			97.2			73.5	"
	9:55	300	"	98.	102.5		97.7			97.5			74.	"
	10:55	360	"	98.5	102.7		98.			98			75.5	"
	11:55	420	"	99	102.7		98.5			99			76.	"
	11:55	"	"	173	175.7	177.7	174.2	175	177.	178		174.		VOLT READING

DATE	TIME	MIN	AMPS	464	465	481	482	483	478	479		486	TEMP Rdg	
8/27/77	Discharge													
	12:00 AM		4.0	144	143	142	142	147	142.5	145		142		
				133	133	132.5	132	132	133	133		133		
				132.5	132.5	130	131	132	131	132.5		132.5		
				127.5	127.5	127.5	127.5	127.5	127.5	127.5		127.5		
				124	125.5	124	124.5	124.5	124.5	124.5		124		
	1:00			122	123.5	122.5	123	123.5	123.5	122.5		122		
	1:30			122	122.5		122.5			122.5			76	Temp
												120		
	2:00			119	119	119.5	120	120	120	119		119.5		
	2:30			117.5	117.5	118.5	119.5	119.5	119	118		117		
	3:00			114	115.5		115.5			115.5			76	Temp
				116	115.5	116.5	116.5	116.5	117	116.5		115		
	3:30			114.5	111	114	114	114.5	115.5	115		113		
	4:00			111.5	113	111	111	111.5	112.5	112.5		109.5		
	4:30			108	110		109.5			110.5			76.5	Temp
				109.5	109.5	109.5	109					108		
	5:00			107.5	108	108.5	107.5	109	111	109.5		106		
					110									-137.7
	5:30			105.5	106.5	106	105.5	106.5	106	106.5		103		
				107	106	105.5	105.5	105.5	107	105		103		-146.7
				104										-150.7
							100							-152.7
	6:00			97.5	98	100	98.5	101	102.5	100		97		-153.3
								100						-155.3
	6:30							100						-158.7
	7:00			94.5	95.5	94.5	95.5	96	96.5	97		94.5		
				107	105.5		111		105	105			76.5	Temp
	7:30			90	88.5	87	87	77	79.5	91.5		91		
					60			50						-169
									50					-169.3
						50								-170
							50	✓	✓					-172.3
				79		✓				83		76.5		
				60			✓							-177.7
										54.5		77		
										53				-180.3
										✓		50		-186
				112.5	114.5	115.5	117	115.5	114.5	112.5		109.5	76.5	
												✓		

OK

-186 after this discharge, for 12 mins.

Cells #551, 552, 568, + 569 were connected in Enclosure Section

Cell #398 connected in for 50 mins in middle of charge (see over)

DATE	TIME	MIN	AMPS	454	488	421	452	483	478	479	480	398	551	552	568	569	TEMP Idle	NOTES
5/27/09	[illegible]	[illegible]		*132	*85		(*103)			(*116)		*195	(*24)	(*24)				
	9:[illegible]	[illegible]	20	[illegible]	[illegible]		117			117		88		92.5			76.5	
	[illegible]	60	"	114	116		112			112		91		94.5			76	
	[illegible]	[illegible]	"	104	112		105			104		94		96			76.5	
	7:[illegible]	120	"	106	115		104			103		94		96.7			76.5	Current off 1 min. at 8:35 while connecting in cell #398
	[illegible]	240	"															
	9:[illegible]	300	"	101	107		100			99		87	94	97.2			76	
	[illegible]	360	"	100	104.5		99.5			98		89	95	98			76	
	[illegible]	420	"	100	103		99			98		91	96	99			76	
	[illegible]	[illegible]	"	107.2	107.2	107.2	107.2	107.2	108.2	107.7	107	102.7	107.2	107	107.7	106.5		
5/27/09	Discharge																	
	12:00	0	40	144.5	142	142	142	141.7	143	142.5	142	137.2	142.7	145	149.7	139.2		
	10	4	"	133.7	133.5	133.2	133	133.7	133.7	133.7	133.7	130.5	133	132.7	138.5	133.5		
	1:0	10	"	131.5	131.2	131	130.7	130.7	131.2	131.2	131	126.7	130	129.7	130.2	130		
	1:20	20	"	128.5	128.5	128.2	128.2	128	128.5	128.7	128.5	124.5	127.7	125.5	128.5	128		
	40	40	"	125.7	124.5	124.2	125.7	125.2	124.7	125.5	125.2	121.2	123.7	124.5	125.5	125		
	1:00	60	"	122.5	121.5	121.5	122	122.7	122.7	122.5	122	118.2	122.2	122.2	122.5	122.5		
	1:00	"	"	102	105		103			103		96	100		104		75.5 TEMP	
	20	80	"	120	118.7	121	121	120.7	121.2	120.7	119.7	114.7	120	120.2	120.5	120.7		
	40	100	"	118.5	117	118.5	117.7	117.2	117.7	117.7	117.2	108.7	118.5	118.5	119	117.2		
	4/3 2:00	100 1/2	"	117.2	116.2	117.7	118.2	117.2	118.5	118	116.7	100 62	117.7	117.2	117.7	117.5	T 69	
	2:00	120	"	107	108		59			108		101	102		106		75.2 TEMP	
	03 1/2	12-3 1/2	"														82.3	
	20	140	"	117.7	117.7	117.7	118.5	116	117.2	116.7	115	4	116	116.7	117.7	116		
	40	160	"	118.7	117.2	117.5	117.2	117.2	117.7	117.5	117.5		117.2	117.7	117.7	117.5		

DATE	TIME	MIN	AMPS	484	488	481	482	483	478	479	480	298	551	552	568	589	TEMP Inlet	
5/27/09	3:00	180	40	1107	1062	1108	1102	111	1134	1122	1092		1125	1117	1122	1126		
	3:00	180	"	104	118		07			106		119	107		109		75	TEMP
	:10	200	"															135.
	:22½	207½	"		100													145.7
	:38½	218½	"								100							
	:40	220	"	100	945	1012	002	022	055	102		785	106	1032	1055	1052		146.7
	:43	223	"				100											148.7
	:45	225	"			100												150.
	:48½	228½	"							100								152.3
	:50	230	"	97	922	977	972	100	102	99		765	1035	100	1021	102		153.3
	:54½	234½	"												100	100		156.3
	:57	237	"							100								158.
	:58½	237½	"										100					158.3
	4:00	240	"	935	957	991	925	932	967	962		942	96	892	872	917		
	1:00	240	"	107	1135		112			109		118	110		114		755	TEMP
	:08½	248½	"												50			163.7
	:08	248	"													50		165.3
	:10	250	"											50				166.7
	:11	251	"			50								✓	✓	✓		167.3
	:12	252	"					50										168.
	:12½	252½	"															168.3
	:13	253½	"			50							50					169.
	:14	255	"					✓	50					✓				170.
	:22	262	"	50					✓									174.7
	:25	265	"				✓			56								
	:26	266	"							50								177.3
	:36½	276½	"							✓		50						184.3
												✓						
	change			133	86		(100)			117.			176	(29)		(291)		
5/27/09	4:55	0	30	1137	120		111			115			114.2	1155		1187	755	Temp
	5:55	60		115	126		113			112			116	110		114	76.	
	6:55	120		110.5	115.		107.5			108.			106.7	107.		110.	76.5	"
	7:55	180		107.2	112		106			1055			104.2	105.		107.	77	"
	8:55	240		104.	109		103.7			107.			102	103		105.5	77.2	"
	9:55	300		103.5	107.2		102.5			1017			101.7	102.5		105.	77.5	"
	10:55	360		103	100.7		102			1015			100	102		105	77.	

DATE	TIME	MIN	AMB	404	488	481	482	483	478	477	480	398	541	442	468	467	TEMP IDLE	
5/27/49	11:00	0	70	102.5	102.5		102			101		100.5	102		103.5		7.K Temp	
	11:05	0		178	175.5	173	174.5	174.5	177	178	178	172.5	175.5	175.5	175	175	P.D.	
				Dwelling														
5/28	12:00	0	75	144.5	143	142	141	141	144.2	147.5	145	141	139	138.5	138.5	138		
	1:00	0		134	133.5	133.5	133	133	134	134	134	134.5	133.5	133	133	133		
	1:05	0		131.5	131.5	131	131	131	132	132.5	132	132	132.5	131	131	131		
	1:20	0		128.5	128.5	128	128.5	128	129	129	129	129	129.5	128.5	128	128		
	1:40	0		125	125.5	125	125	125	125	125.5	125	125.5	125.5	125	125.5	125.5		
	2:00	0		122.5	122.5	122.5	122.5	122.5	122.5	122.5	122	122.5	122.5	122	122	122.5		
	2:05	0		104.5	103.5		105			103		102.5	104.5		104		77.5 Temp	
	2:20	0		122	119.5	121.5	121.5	121	121	122.5	120	121	120.5	120.5	120.5	121		
	2:40	0		119	117.5	119.5	120	120	120	120.5	119.5	119.5	119	118.5	119	119		
	2:00	0		117	117	117	117	117.5	117.5	117.5	117	117	117.5	117	117.5	117		
	2:30	0		105	119.5		117			115.5		114	117		119.5		77.5 Temp	
	2:20	0		116	115.5	116	116	116.5	117.5	117	115.5	117	116	116.5	116	116		
	2:30	0		114	111	115.5	115.5	114	115.5	115	113	115.5	114	115.5	114	115.5		
	3:00	180		112	112.5	111	111	112	114	112	112.5	114	112.5	111	112.5	112		
	3:00	0		107	112		107			106		110.5	106.5		113		77.5 Temp	
	110	150			105													
	120	200		108	105.5	107.5	107	106.5	111	107.5	106	107	107.5	108	107.5	110		
	130	210		105	108	105.5	106	106.5	109	107	103	103.5	107.5	105	105	105		140.
	140	220		102.5	97	103	104	104	107	104.5	101	107	106	103	105.5	106.5		149.7
	147	227																
	147	227		100			100				98	100.5	101.5	104	97.5	100	102.5	152.
	150	230		99.5	94	100	99	101.5	104.5	101			100					153.3
	152	232																155.7
	155	235						100		101						100		156.7
	157	237										100						158.7
	4:00	240		95.5	89	97.5	95	95.5	100	97.5	95.5	97.5	85	73.5	50	87		160

DATE	TIME	MIN	AMPS	404	488	481	482	483	478	477	480	395	551	552	568	569	TEMP Delta	
5/26/09	4:23		40	109	107		112			105.5		116	112	50	117		77	Temp
	4:45																	- 162.3
	5:00													50			50	- 163.3
	5:30														115			- 164.3
	6:00															117	77	Temp
	11:45																	- 168.
	12			69	72	61.5	72	61	72	91	91	50	✓	115	✓	✓		
	12:15							50										- 168.7
	12:30					50							✓	✓				- 169.3
	12:45								50									- 170.
	1:00			115.5		115	114	114	109			111					77	Temp
	1:15						50											- 171.
	1:30			78.2		✓	✓	✓	✓	78.2								
	1:45			50							50							- 176.7
	2:00									50	71.5							- 180
	2:15										50							- 186.7
	2:30			112.5						112	111						77	Temp
										✓	✓							
5/26	6:00			134	77		(105)			(117)		137	(30)		(30)			
	4:00	1	30	120	147		119.5			110.5		117.5	112		120		77	Temp
	5:00	61		114.7	119.5		113			111		111.2	117.7		114		75.2	
	6:00	120		117	113		105			104		112	102.5		107		75.2	
	8:05	190		164	109		109			100		99	99.5		104		75.	
	8:35	247		101	106		100			96		97.7	99		102		74.7	
	9:55	300		99.2	104		98.7			96.5		96.5	97		101.2		74.5	
	11:55	361		99	103		98			95.7		96.5	97.2		101.2		75	
	12:55	420		100.5	102		99.2			97.8		98	99		102.7		76	
	1:55	420		128.2	176	173.2	174.2	172	177	178.2	178.7	176.7	177.2	172.2	175.7	176		130 Thermostat
6/28/09	AM			D														
	12:00	0	%	143.2	142	141.2	140.7	140.5	142	141.7		140.5	140.5	140	139.7	139.7	139.5	
	.07	7	"	133.7	133.5	133.5	133	132.5	133.7	133.7		133.7	134.5	132	132.7	132.7	132.7	

DATE	TIME	MIN	AMPS	444	448	451	452	453	478	479		480	548	551	552	562	569	TEMP Idle	
5/28/09	AM																		
	:10	10	40	1315	1315	131	131	1307	1312	1317		1311	1322	1305	130	1305	1305		
	:20	20	"	1225	1232	127	1232	128	128	1225		1227	1232	1237	1237	1237	1237		
	:40	40	"	120	1242	1247	1247	125	1250	1252		1247	1247	1255	1252	1250	1250		
	1:00	60	"	1202	1201	[illegible]	1205	1202	1205	1202		1215	1225	1221	1217	1222	1222		
	1:00	"	"	103	1022		1035			1035			101	1047		1042		77.	Temp.
	:20	80	"	1207	1198	1217	121	121	1212	1205		1198	1205	1202	1200	1201	1202		
	:40	100	"	1185	117	1192	1192	119	1192	119		1178	119	1187	118	1185	1187		
	2:00	120	"	117	1152	1172	1172	118	1182	1175		1162	118	117	1165	117	117		
	2:00	"	"	106	1085		107			1045			1047	105		109		77.5	Temp
	:20	140	"	116	1132	1152	116	1162	117	1165		1152	117	1152	1157	1152	1152		
	:40	160	"	114	110	1132	113	114	1152	1145		1122	1152	1157	113	1155	114		
	3:00	180	"	111	107	1107	1105	1112	1132	1125		1157	1142	1132	1107	1112	1117		
	3:00	"	"	925	112		1145			1135			1055	107		110		77	Temp
	:20	200	"	1022	102	107	107	108	1107	109		1052	112	109	1095	109	109		
	:37	217	"	1045	1000 .986	1052	1042	1057	1087	1021		1025	110	1025	1022	1017	1021		138
	30	230	"	1017	.957	1022	1015	1032	1023	1021		1025	1017	1015	102	1022	1017		
	:40	240	"	100			100												146.7
	:45	245	"												100				150
	47	247	"													100			150.3
	:50	250	"	932	99	100 982	100	1.00 100	1.032	100		972	1052	1052	942	97	1005		151.3
	:50	250	"											1020			100		153.3
	50	250	"	935	857	91	927	925	100	992		907	94	1082	950	950	950		153.7
	03	253	"										100	950					162.3
	05	255	"		50														162
	15	255	"					50											149.7
	13	253	"			50													149.
	14	254	"						50										149.7
	15	255	"				50												170.7
	20	260	"	1067						1085		957	79						
	23	263	"	950															175.3
	25	265	"										50						176.3
	27	267	"							50									178.
	29	279	"																180
				114	1005		1187			114		1127	1185		1121			76.2	TEMP

DATE	TIME	MIN	AMPS	404	488	481	482	483	478	479	480	398	551	552	548	549	TEMP
											Idle						
6/28/07	Charge AM			135	88		(106)			(117)		198	(31)		(31)		
	4:55	0	30	118	131		120			117.7		1112	1142		117	77	
	5:55	60		107	121.5		115			113.5		1175	1105		113.5	77	TEMP
	6:55	120		106	115		111.7			110		109	108		109.7	77.5	"
	7:55	180		105	112		108			107.5		107	105.7		107.5	78	"
	8:55	240		105.2	110		107.2			105		105.2	103.2		105	78.2	"
	9:55	300		105.5	109.5		105			103.5		103.5	103		104.2	78.5	"
	10:55	360		105.5	108.2		103.7			102.5		102.5	103.5		103.5	79.5	"
	11:55	420		104.5	107.5		104.2			102		102	105		107	79.5	"
	11:55	420		107	109.5	107.2	103	103.5	102	102.5	107.7	107.5	106.2	107.2	107.7	107.5	P.D. READING
6/28/07	Discharge																
	12:00	0	40	145	144	142	141.5	141.5	143	144.7	144	143	139.5	139	139	139.5	
	.04	4	"	133.7	133.7	133.5	133	133	133.7	133.7	133.7	133.5	133.2	133	133.2	133.5	
	.10	10	"	131.7	131.5	131	131	131	131.7	131.7	131.7	132.2	130.2	130	131	130.5	
	.20	20	"	129	128.2	128.2	128.7	128	129	129	129	129.7	127.7	127.5	128	128	
	.40	40	"	126.5	125	125	125.5	125	126.5	125.7	125.5	126	125	124.5	125.5	125	
	1.00	60	"	122	120.5	122.5	123	123	123	122.5	122	123	122.2	122	122.5	122.2	
	1:00	60	"	106.7	110		107			105.5		105.5	106.7		109.5		Temp
	.20	80	"	120.2	119.7	121	121.5	121.5	121.5	121	120	121	120.5	120	120.5	121	
	.40	100	"	119	118	120	120	120	120	119.7	119	120	119	119	119	119.5	
	2.00	120	"	117.7	115.7	117.7	117.2	117.2	119	117.2	117	117.5	117.5	117	117.5	117.7	
	2.00	120	"	105.5	111.5		107.5			106		105	107.7		109.2	112	
	.20	140	"	116	115.5	115.5	115.7	116	117	116.2	115	117	115.5	114.5	115.5	116	
	.40	160	"	114	111	113	113.5	114.7	115.7	115	113	116	114	113	114	113.2	

DATE	TIME	MIN	AMPS	464	498	481	482	483	478	479	480	398	551	552	568	569	TEMP	
	AM																Idle	
5/25/78	2:00	180	90	111	106.5	112.2	110.5	111	113	112	109	109	111.5	113	111.5	111.5		
	3:00	280	"	108	112.5		110			106		107	109		112.5		77	
	.20	340	"	109.7	112	110.5	110.2	111	110.5	109	105	112	113	112.5	111	112.7		
	.30	370	"	105	111	111.5	110.5	110.2	109	109	103	110.2	111.5	111.5	111	111.5		— 140
	.40	400	"	102	97	112	112	112	107	110.2	105	110	112	112	110	109		
	.42	420	"								100							— 148
	.47	447	"	100		100	100						100		101			— 151.3
	.50	470	"	99	99.5	98	99	101	102	101	98	102	100	99.2	98	100		— 153.3
	.52	490	"					100		100								— 155.3
	1.07	537	"												99			— 156.3
	1.07	537	"											50				— 159.
	4:20	640	"	95.7	99	96.2	94	95.7	100	97.5	95	103	102.5		103			— 160.
	4:30	650	"										50		50			— 161.
	4:35	655	"	109	114.3		112.2			108.5		108	113.7	112.5	111.7	114.5	72.5	Pump
	4:40	660	"									100						— 168.
	4:50	670	"	90	95.7	92	91	93	82.5	92	90	95	✓	✓	✓	✓		— 168.
	4:52	672	"		50	50												— 169.7
	4:53	673	"					50		50								— 170.3
	4:57	677	"			✓	50		50									
	5:00	680	"	92				✓	✓	85	92.2	91						— 177.3
	5:02	682	"	50			✓			65.5	72.2	62						
	5:05	685	"							50		50						— 180.3
	5:07	687	"															— 180.7
	5:31	711	"	112	119	114.5	112.7	112	113.7	112	50	112.7					72.2	Pump
	5:32	712	"							✓	112.2	✓					72.2	— 186.7
	5:33	713	"														72.2	Pump
5/29	4:00	0	30	112.2	114.5		112			117		114.5	117		117		76	Pump
	5:45	60	"	110.5	120		113.7			116.5		111.5	110.5		112.5		75.7	"
	6:55	130	"	116	116		108.2			107		106	106.5		108.5		76	"
	7:55	190	"	107	111		107			103		108.2	109.7		106.5		75.2	"
	8:55	250	"	102.7	102		102			99.7		100	100.2		102.7		74.5	"
	9:55	310	"	102	102		99.7			98.2		98.2	99.7		102		74.7	"

DATE	TIME	MIN	AMPS	464	485	481	482	483	478	479	480	398	551	552	548	549	TEMP Fdle	
5/13/49	10.55	300	50	100.5	104		99.5			97.4		98	100.5		104.5		74.7	
	11.01	426	"	100.5	104		99.5			99		98.7	100.2		102		74.5	
	12.01	426	"	178.2	176.7	173.2	173.7	174.2	176.7	178	178	178.2	177	176	176	176.7		P.R. $-7\frac{1}{10}$ hrs.
	Stood	nicely	(1.00)	Shower	over													
	Sunday		Monday									D. Michaels.						
6/1	12.00	0	40	124.5	124.5		124.5			125		124.7	125		125		74.5	Temp
	12.10	0	40	127	126.7	126.7	126.5	126.5	126.5	127	126	127	127	126.5	127	127		
	.30	"	"	122	121	121.7	122	122	122.5	122.5	120	121	120.2	120	120.5	120.5		
	.40	"	"	121	120	120.2	121	121	122	121.5	119.7	122.5	119.5	119.5	119.7	119.7		
	.50	2.0	"	119.7	119	119.5	120	120	121	120	120	121	119.2	119	119.2	119.5		
	.55	2.5	"	118	118	118	119	119	119.5	118.5	118.2	119	117	117	117	117.5		
	1.00	3.0	"	117.2	119.2	119.2	118.5	117.7	118	117	117.2	117.5	117.7	117.5	117.5	117		
	1.10	4.0	"	91.7	92.7		92.5			93		92.7	92.7		93		74	Temp.
	1.20	5.0	"	115	112.2	115	115.7	116	116.5	116	115	116.2	117.2	117	117	115.5		
	1.40	7.0	"	114	113.5	113	114.2	115	116	115	114	115.7	113.5	112.5	113	112.7		
	2.00	8.0	"	112.5	112.5	112.7	112	113	113.5	112.7	112	113	112	111	111.5	112		
	2.10	9.0	"	97.2	98.5		99			97.7		97.5	99		99.5		74.5	Temp
	.20	9.0	"	110.5	110.5	109	107.5	110.5	113	112	109.2	113	110.7	109.7	110	110.2		
	.30	9.0	"		110.5													
	.40	9.0	"	102	100	106	106	107.7	110.2	109	105.5	111	105.2	107	107.7	107.2		-106.7
	3.00	9.0	"	103.5	95	102	102	104.7	107.7	105.5	101	105.2	106	104	104.5	105.5		
	3.10	9.0	"	103	106		105			104		103	106		105.2		74.7	Temp
	.20	9.0	"								100							-126
	.30	9.0	"	100	97.2	100	103	101.7	105.5	102.5	99	100.5	103	101	101.5	103		-126.7
	.37½	9.0	"					100						100	100			-131.7
	.50	2.0	"	97.5	99	95.5	96			100	95.7	104	100	95	95.7	100		-133.3
	.50	2.0	"	96.2	97.5	97	97.2	97.5	97	97.2	97.2	102	99	97.2	97.5	99		
	.53½	2.13½	"												50			$=142.13$

6A

DATE	TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	478	479		480	398	[illegible]	[illegible]	[illegible]	569	IDLE	
6/[illegible]/[illegible]1	A.M. 3.[illegible]7½	214½	40												50				— 143.
	.37	217	"											50			50		— 144.7
	.40	[illegible]	"	71.5	217	81	56.5	87	96	53.5		52	100	✓	✓		✓		— 146.7
	.46½	[illegible]	"			50													— 151.
	[illegible]	[illegible]	"					50											— 152.
	[illegible]	[illegible]			50	✓													— 152.7
	.49½	[illegible]	"				50	✓											— 153.
		[illegible]	"	24.5					155	88		[illegible]	95						
	[illegible]	[illegible]	"				✓		50										— 156.7
									✓										
	4.[illegible]01	240	"	50						78.2		65	87						
	4.0[illegible]	[illegible]	"	108.5	114.5	114	114.5	114	110	110			109	116	116.2	117.	118	80.7	Temp
	.01½	24[illegible]½	"	50															— 16[illegible].
	[illegible]	[illegible]	"							50									— 165.3
	[illegible]9	[illegible]½	"										50						— 166.3
	.10	2[illegible]0	"							✓		77							
	.1[illegible]½	[illegible]½	"									50							— 172.3
	.1[illegible]	[illegible]	"							"113		113	112.5						Temp
												✓	✓						

Cells #478 – #480 removed from [illegible] test & run on at 4 [illegible].
Cells #466 – #468 put in Edmonand Section again, for 50 runs.

DATE	TIME																		
									466	467		468							
6/1	Charge A.M.			#127	#90	(#100)			(#115 + #[illegible])			#117.	#200	(#33)		(#33)			
	4.55	0	30	116	117		115.2			80.2			112.2	110.5		113		79.5	Temp
	5.55	60	"	110.5	116		1.9			84.7			106	106		107.5		78	"
	6.55	120	"	107.7	112.7		106.5			86.2			103.2	103.5		105		78	"
	7.55	180	"	105.7	109.5		104			88			100.5	101		103.7		78.2	"
	8.55	240	"	103.2	107		102.2			90.7			99.	99.7		102.5		78.5	"
	9.55	300	"	102	105.5		102.			92.7			98.6	99.5		102.		78.	"
	10.55	360	"	101.5	104.7		1.01.			95.			99.	1.00.		102.2		80.5	"
	11.55	420	"	102.5	105.2		102.			97.5			100.2	104.5		102.5		81.	"
	12.55	420	"	1772	1742	172	1722	173	1,742	173		1712	177	1767	176	1757	1757		

DATE	TIME	MIN	AMPS	404	488	481	482	483	466	467		468	398	551	552	548	549	TEMP. Idle
				Discharge														
6/1/09	12:00 PM	0	40	144	143	142.2	142.2	140	142	142		141.5	141	138	137.7	137.5	137.5	
	:04	4	"	133	133	133	132.7	132.1	133.7	133.7		133.5	133.5	132.2	132.1	133	133.2	
	:10	10	"	131.2	131.2	131	130.7	130.5	131.2	131.2		131	132	130	130	130.7	130.7	
	:20	20	"	128.2	128.2	128	128.2	128	129	128.7		128.5	129.2	127.5	127	128	127.7	
	:40	40	"	125	124.2	124.5	125	124.2	125.2	124.2		125.2	125.5	124.2	124.2	124.5	124.2	
	1:00	60	"	122	121.2	122.2	122.5	122.2	122.7	122.7		122.2	122.7	121.2	121.5	121.7	122.7	
	1:00	"	"	106.7	106.5		107.5			107.5			106	108.7		110		B3 Temp
	:20	80	"	120	118.2	120.2	121.2	120.5	120.7	121.7		122	120.7	120.5	119.7	120	120.2	
	:40	100	"	118.5	117.7	119.2	119.5	118.7	120	120.2		120.2	119	119.2	119	119.2	118.5	
	2:00	120	"	117.7	117.7	118.5	118	118	118.2	117.7		120	118	117.5	118.2	117.7	118	
	2:00	"	"	108.5	114		111.5			108.7			108.5	111		112		8.22
	:20	140	"	116	113.7	114.2	116	115.2	118.2	118.7		117.2	116.7	115.5	117.7	117.2	118.2	
	:40	160	"	113.8	112.2	112.5	113.2	113.7	116.7	117		117.7	117.2	113.7	112.7	113.2	113.7	
	3:00	180	"	112	107.8	110	112	112	115.5	115.7		116.5	113.5	111.7	110.5	112	113.5	
	3:00	"	"	112.7	112.2		112.5			111.5			112.7	114		112.5		8.45 Temp
	:20	200	"	106.7	103.2	106.2	106.2	107.5	113.2	113.7		113.5	110.7	109.7	107.2	108.2	108.7	
	32½	212½	"		100									108	99			140
	40	220	"	104.2	96.5	101.5	101.5	102.2	110.5	110.7		112	107	103.5		100	102.2	145.3
	42½	222½	"	100														149.7
	45	225	"			100		100						100				149.3
	47½	227½	"															150.
	50	230	"					100										152.7
	52½	232½	"															153.
	55	235	"	97.8	93	96.7	98.2	99.7	108.7	108.2		111	108.5	103.5	100.5	97		154.
	57	237	"											100	100	100		
	55	235	"															156.7
	1:00.0	240	"	93.5	77.2	83.2	90.5	87.5	105.5	105.7		106.5	102.7					
	1:00.0	"	"	117	122		121.7			113.5			122	122		121.7		Rest Temp
	103	243	"										100					162.5
	0	246	"		100	100		100				100	100					165.3
	0	248	"															165.3

DATE	TIME	MIN	AMP	484	488	481	482	483	466	467	468	398	484	482	468	469	TEMP
	AM.																IDLE
	11:09	249								100							— 166.
6/11/09	11	241	40														— 167.3
	11½	254½	"														— 169.7
											50						
	15	255	"	69					97	97.2		90.2					
	18	258	"	40													— 172.
	21½	261½	"														— 174.3
	26½	266½	"														— 177.7
	30	270	"								50						— 180.
6/11/09	Change			138	91	(109)			164		118	70.1	(34)	(34)			
	AM.																
	5:00	6	30	137	127.2		127.2		117			120	121	122	103.7		Tank
	5:55	60	"	120	127		122		132			117	117.7	117	82		"
	6:55	120	"	122	117		111.2		107.2			107.7	108.7	112.2	102		"
	7:55	180	"	108.2	113.2		107		103.5			103.7	104.7	108	79		"
	8:55	240	"	106.2	107		106½		100.7			101.7	102	106.5	78.2		"
	9:55	300	"	103.5	107.2		102		100			99.7	101	104.2	78		"
	10:55	360	"	104.7	105.7		100.2		98.7			99	100	104	76.5		"
	11:55	420	"	100.7	104.7		99.5		97.5			97.5	100.2	103	76		"
	11:55	420	"	137	126.5	127.7	126.5	125	127.7	127		125	126	127.7	127	127	P.D. READING
	Dive	Change															
	AM.																
	1:00	0	40	145	143	142	141	141	142.5	142		142	143	139.5	139	139	138.2
	1:01	4	"	133	133	132.5	132.5	132.5	133.5	133		133	134.5	132	132	132	132
	1:10	10	"	132.5	131	131	131	131	132	132.5		131	132.5	130.2	130	130.5	131
	1:20	20	"	129	128.5	128.5	128.5	128.5	129.5	129		129	131	128	127.7	128	128.2
	1:40	40	"	125	124.7	125	125	125	126.5	125		125.7	126	125.5	124.2	124.5	125
6/11/09	1:00	60	"	120	121.7	122.5	123	123	123.5	122.5		124	123.7	122.2	122.5	122.5	123

DATE	TIME	MIN	AMB	480	481	482	483	466	467	468	398	484	485	486	469	TEMP IDLE	
6/3/09	A.M. 1:00	60	%	124	117.2		119		113		122.5	125		107			77 Temp
	1:03	55	"	123.5	117.7	120.5	117.5	120.5	122	123	122.5	122.5	120.5	122.5	121		
	1:05	50	"	119	117.5	119.5	120	120	120.5	122.5	122.5	119	117.5	119	119.5		
	2:00	120	"	117.5	117.7	117.5	116	117	117	117	117	117.7	117.5	117.5	117.5		
	2:05	125	"	120.5	117.5		118		120		120	118		116.5		74 Temp	
	2:09	129	"	116	117	117.5	116	116.5	116.5	119	122.5	116	115.5	116	116.5		
	2:15	135	"	114.5	116	116.5	114	115	117	117.5	117.5	117.5	114	114	115		
	3:00	180	"	112	116.5	115.5	111	112	115.5	116	117.5	117.5	112	111.5	112.5		
	3:05	185	"	109.5	112		111.5		108		109	111		111.5		79 Temp	
	3:21	201	"	112.5	113	112	113	109	111.5	114	112.5	112.5	112	112.5	112		
	3:31	211	"	106	111	112	105	107	112	112.5	112.5	106	105	107	111.5		
	3:41	221	"		109												— 143.
	4:00	220	"	113	97	102.5	101.5	104.5	110.5	111	112	112.5	101	105.5	106		
	4:02	222	"										104				— 150
	4:05	225	"			105											— 150.7
	4:07	227	"				101										— 151.3
	4:12	232	"	100													— 152.3
	4:17	237	"	100	95	99	99.7	101.7	108.5	109	110.5	112.5	100	99	99.5		— 152.7
	4:20	240	"										100				— 153.3
	4:21	241	"					100						50			— 154
	4:27	247	"												50		— 156.
	4:32	252	"														— 158.3
	4:00	211	"	95.5	85.7	92	95	96.2	106	106	107.5	112.5	50		50		— 160
	4:03	243	"	113	117		115		110		120	115	112.5	117	112.5	114	74 Temp
	4:05	245	"									100					— 165.3
	4:10	250	"	91	60.5	66.5	84	80	102	101.7	99	79					
	4:12	252	"		50	50							✓	✓	✓	✓	— 167.7
	4:15	255	"						100								— 168.
	4:17	257	"			✓		50									— 169.
	4:18	258	"														— 170.
	4:19	259	"				50	✓	100								— 170.3
	4:20	260	"														— 171.3
	4:21	261	"			✓					50						
	4:24	264	"	78					96	99		73					— 176.3
	4:27	267	"	50						50							— 177.7
	4:28	268	"								✓						
	4:29	269	"							50		73					
	4:30	270	"						78								— 183.3
	4:32	272	"							✓		50					— 184.3
	4:34	274	"					50	64	116	118	105				74 Temp	
	4:36	276	"	119.2	124	122.2	122.5	122.5									

DATE	TIME																							
6/7/09	Charge				129	92		(110)			(117 +			119	Temp	(95)	(95)							
	6:55		20	121	117	117		122			117				117.7	119.5	122		767	Temp				
	7:00	60	"	116	122			117			117.2				111	113	125		79.5	"				
	7:15	120	"	110.7	116.5			109			106.2				105	107	110.5		77.5	"				
	7:55	180	"	106.5	111.2			105			104.7				102	103	107		77.7	"				
	8:55	240	"	102.4	107.5			101			98.5				98.5	99.7	102.5		72	"				
	9:55	300	"	98.5	103.7			98.5			96				96	95.5	101		75.5	"				
	10:55	360	"	94	99.5			94			94				95.5	97.2	97		74	"				
	11:55	420	"	91.2	91			95			93				94	94	98		68.5	"				
	11:55	420		179	177.2	172.42	125	1257	181		178.4			177	180	178.5	178.2	177	177.2		VOLT READING			
								Discharge																
6/2/09	PM 12:00	0	40	1452	1444	1443	1422	1422	1432	1434				1443	1443	1440	1397	1439	1439					
	:04	4	"	1335	133	133	133	1322	1337	1335				133	135	1322	1322	1322	133					
	:10	10	"	131	1367	1305	1305	1305	131	136				1307	132	130	1297	1305	1305					
	:20	20	"	1287	1282	128	1282	1282	128	1285				1280	1297	1272	127	128	128					
	:40	40	"	1352	1347	125	126	125	1252	1250				1260	126	125	1251	125	125					
	1:00	60	"	1277	1312	1225	1277	1222	123	1277				1232	1222	1222	1217	122	1225					
	1:00	60	"	99.2	101		99			97.5					98	98		97		745	Temp			
	:20	80	"	120	119	120.7	121	121	121.2	121				122	120.7	120.2	120	120.2	120.5					
	:40	100	"	118.5	117	117.2	118.5	119.5	117.7	120				121	117.2	118.2	118.2	118.7	119.2					
	2:00	120	"	117	116.2	117.2	117.7	117	117.7	118.7				117.7	118	117	116.5	117	117.5					
	2:00	11	"	101.2	106.5		102.2			100					101.2	102.2		102.7		747	Temp			
	:20	140	"	115.7	113.2	115.5	115.7	116.7	117.7	117.7				118.5	116.7	115.5	115.7	115.5	115.7					
	:40	160	"	115.7	110.5	112.5	113	113.7	116.2	116.5				117.7	115.5	115.7	112.7	115.5	114					

DATE	TIME	MIN	AMPS	464	488	491	492	493	466	467	468	398	551	552	554	567	TEMP. Solid	
6/2/09	PM 3:00	/80	40	1112	1024	110	110	111	1147	1147	1147	1137	1117	1107	1115	1119		
	3:00	/80	"	1032	1084		106			102		104	1042		1082		747	Temp.
	10	/70	"		1047													
	:20	200	"	107	1032	106	1007	1027	1127	1127	1135	1107	1087	1075	108	1087		— 137.7
	:20½	200½	"		1.00													
	:30	210	"	104	.9845	1032	103	1047	1102	1100	112	1087	107	1082	1057	1067		
	:40	220	"	1007	957	1001	1001	1022	1085	1087	1065	1065	1042	1012	101	104		
	:41½	221½	"			1.00	1.00							1.00	1.00			— 147.7
	:42½	222½	"	1.00				1.00										— 148.3
	:47	227	"															— 151.3
	:48	228	"										100			1.00		— 152.
	:48½	228½	"															— 152.3
	:50	230	"	772	922	957	767	9845	106	1065	1085	1064	942	847	537	937		
	52½	232½	"												.50			— 155.
	:56½	236½	"											.50				— 157.7
	58	238	"													.50		— 158.7
	58½	238½	"										.50					— 159.
	4:00	240	"	734	862	887	92	922	1027	1032	1045	1005		✓		✓		
	40	240	"	108	1124		111			1067		108	1142		118		752	Temp.
	42½	242½	"									1.00						— 161.7
	.04	244	"								100		✓		✓			— 163.3
	.06	246	"							100								— 164.
	.07	247	"						100									— 164.7
	07½	247½	"		.50													— 166.3
	10	250	"	.874		.50	.63	.567	98	952	.667	.962						— 166.7
	12	252	"					.50										— 168.
	:17	257	"			✓	.50											— 169.3
	:20	260	"	.647			✓	✓	90	.642	✓	.887						
	21½	261½	"						.50									— 174.3
	22	262	"	.50														— 174.7
	.30	270	"					.667	✓			.672						
								.608				/10					752	Temp.
	.30	270	"									.50						— 182
	.33	273	"															— 182.3
	.33½	273½	"					✓										

DATE	TIME	MIN	AMB	404	489	481	482	483	460	467	468	378	467	484	255	485	469	TEMP IDLE
6/2/09	Charge			170	92		111			118	120	202	(3.6)		(3.6)			
	PM 7:00	60	30	1142	1145		1122			1085		1087	1109		1117			76.7
	8:00	60	"	1145	1197		1113			1109		110	110		1113			77.2
	9:00	120	"	1140	1162		1097			1067		1082	1072		1097			78
	10:00	180	"	1072	1113		1097			1085		1072	1052		1088			78.5
	11:00	240	"	1085	1095		1097			1025		102	103		1057			78.7
	12:00	300	"	1037	1082		1032			1012		1017	102		1045			79
	1:00	360	"	1025	1075		1062			1002		1007	1072		1052			78.7
	2:00	420	"	1037	1062		1003			1002		102	1027		1077			79
	3:00	420	"	1172	1247	1172	1127	1127	1129	1162		1155	1128		1162	1126	1155	F.D. TEMPING
6/3/09	A.M.			Discharge														
	12:00	0	40	1142	1162	1132	1139	1139	1135	1139		137	1385	136	1355	1352	1352	
	.05	1	"	134	1327	1322	1322	132	1327	1325		1327	1327	132	1322	1322		
	.10	10	"	131	131	130.5	1305	130.5	1307	130.5		131	132.5	1302	131	130.5	130.5	
	.20	20	"	1285	128	127	128	127	129	1285		1282	133	1277	127.5	127	127	
	.40	40	"	1265	127.5	125	1255	125	126	1257		126	126	127.5	127.5	1255	125	
	1.00	60	"	1225	1217	122.5	123	123	1225	1225		124	1225	1222	122	1225	1225	
	1.00	60	"	136.5	119		1055			1147			139.5	106		109		76.2 Temp
	.20	80	"	1205	118.5	121	1215	121	121.5	1215		1222	121	1207	120	1202	121	
	.40	100	"	119	117.5	119	120	120	120	120		122	1177	119	118.5	118.5	119	
	2.00	120	"	1177	116	1177	117	1162	119	119		120	118.5	117.5	117	117.5	118	
	2.00	120	"	1178	111		1085			106			105	108		111		Temp
	.20	140	"	116	114.5	115.7	116	116.5	118	118		119	117.5	117.5	115	115.7	116	
	.40	160	"	114.5	112	112.5	114	114.5	115.5	117		117.7	116	114	113.5	113.5	113.5	

DATE	TIME	[illegible]	[illegible]	424	428	429	432	433	446	447	448	398	551	552	561	569	1026	
6/3/09	3:00	180	43	112	109	110.5	111	112	115	115	116	114	112	111	117	112.5		
	3:00	180	"	108	112		111			106.5		105.5	109		112.2		77.7	Temp
	.10	2:00	"	108	109.2	107	107	105.2	112.5	113	110	111.7	109.5	106.2	107	110		
	.20	2:10	"	106	111.7	105	103	105.5	111	111.5	112.5	113	108	105.2	107	112.5		
	.25	2:15	"		100						111	110.7	115	106	110.5	115		— 143.3
	.30	2:20	"	107	111.7	112	112	109	109	108.5				110	110			
	.40/2:10	2:40	"										110					— 149.
	.45/2:15	2:45	"															— 149.7
	.50/2:20	2:50	"			110	110						110					— 151.
	.55/2:25	2:55	"															— 152
	2:00/2:30	3:00	"	110												110		— 152.3
	.05	3:05	"															— 152.7
	.10	3:10	"	99	111	112	113	111	107	107	109	105	95	105.2	102	92		
	.15	3:15	"					100							100			— 154.7
	.20	3:20	"													50		— 157.
	.25/3:00	3:25	"														50	— 158.3
	.30/3:05	3:30	"															— 158.7
	.35/3:10	3:35	"										50					
	4:00	3:40	"	95	107.7	105	94	95	103.7	104	110.5	112						
	4:00	3:40	"	111.5	115.7		113.2			110.5	100	110.5	114	114.7	112.5	117		77.5 Temp
	.05/3:45	3:45	"									110						— 163
	.10	3:50	"							100			110	✓	✓	✓	✓	— 163.3
	.15	3:55	"															— 164.7
	.20	4:00	"							100								— 166.
	.25	4:05	"															
	.30	4:10	"	89	50	50	74	56.2	99	92.5		110	95					— 166.7
	.35	4:15	"					50										— 167.3
	.40/4:20	4:20	"			✓	50	✓			50							— 167.7
	.45/4:25	4:25	"															— 169.
	.50	4:30	"	77.5			✓		91.7	69.5			92					
	.55	4:35	"	50						50								— 174.7
	.60	4:40	"										74.2					— 175.3
	.65	4:45	"						68.5									— 182.3
	.70/4:50	4:50	"						50				50					— 183.7
	.75/4:55	4:55	"	117	122	120.5	115	115.5	111	114.7	118.5	112.5					77	Temp
				✓	✓				✓	✓	✓							

| DATE | TIME | | |

DATE	TIME	MIN	AMB	404	480	481	483	482	466	467	468	398	481	482	468	469	dell	
6/3/09	PM 2:00	/80	40	/122	/07	1078	/1065	/1145	/115	/145	/1157	/139	/1122	/112	/1145	/12		
	3:00	/80	"	/122	/122		/110			/109		/109	/110		/1047		785	Temp.
	12	230	"	/1087	/1019	/1062	/107	/1091	/1125	/1127	/114	/1145	/1077	/1087	/1072	/1097		— 137.5
	26½	206½	"		100													
	50	210	"	/1061	982	/1025	/1072	/1057	/1061	/1108	/1122	/1072	/1075	/1067	/1067	/1067		
	40	220	"	/1035	967	/1007	/102	/1037	/1072	/1085	/111	/1072	/1072	/1071	/1004	/1037		
	41	221	"			100									100			— 147.3
	42½	222½	"											100				— 148.3
	46½	226½	"				100											— 151.
	47	227	"										100			100		— 151.3
	49	229	"															— 152.7
	50	230	"	100	921	96	985	100	1067	1072	/109	/1052	867	712	50	777		— 153.3
	50	230	"											50				— 156.7
	56	236	"													50		— 157.3
	57	237	"										50					— 158.
	1:00	240	"	96	85	877	945	992	1035	1035	/1037	/1017						
	1:00	240	"	/1082	/1057		/1045			/123	/100	/1027	/1082		/1227		Bow	Temp.
	02½	242½	"															— 162.5
	04½	244½	"							100		100						— 163.
	06	246	"										✓	✓	✓	✓		— 164.
	08	248	"		50	50												— 165.3
	09	249	"							100								— 166.
	10	250	"	92			797	850	977	925	50	97						— 166.7
	10½	250½	"			✓		50										— 167.
	14	254	"															— 169.3
	20	260	"	677	✓		✓	✓	897	50		905						— 173.3
	22½	262½	"	50							✓							— 175.
	30	270	"						59			735						
	37½	277½	"						50			50						— 181.
	38	278	"		✓					✓								— 174.

DATE	TIME	MIN	A/1B	464	468	481	482	483	466	467	468	398	464	1052	469	469	Delle Tank
6/3/09	Charge			172	95		93			120	122	204	(38)		(38)		
	P.M.																
	1:00	0	30	123	122		122			117		117	117		120	80	Tank
	1:30	60	"	119	122		118			115		112	112		111	78	"
	6:00	120	"	113	117		117			108		109	109		111	80	"
	7:00	180	"	109	115		117			105		106	104.5		109	80	"
	8:00	240	"	106	110		107			103		102	102.5		107	77	"
	9:00	300	"	104	109		104			101.5		102	102.5		105.5	77	"
	10:00	360	"	105	107.5		104			102		102.5	102.5		105.5	77	"
	11:00	420	"	104.5	106.7		104			102	101.5	109	102.5	102.2	105.5	77	P.D. READING
	11:00	420	"	107	105	102.5	103	103.5	100	102							
		Discharge															
6/4/09	A.M.																
	12:00	0	40	144	143	142	141	141	143	142	142	142	139.5	141.5	136.5	137	
	10	4	"	133	133	133	133	133	133	133	132	132.5	132.2	132	133	133	
	:10	10	"	131.5	131	131	131	131	132	131.7	131	133	130.5	131.5	131	131	
	:30	40	"	128	127.5	127	126	126	128.5	126.2	128	127.5	127.7	127.5	127.5	126	
	:40	40	"	125	124.2	124.5	125	125	125.5	125.2	127.5	126	125	125.5	125	125	
	1:00	60	"	122	121.5	122.5	123	123	123.5	123.5	127	125	125.5	122.2	122.2	123	
	1:00	60	"	127	125.5		125.5			124.5		125.5	126		110	79	Temp
	:30	90	"	122.5	119.5	122	121.5	121.5	121.7	121.7	122.5	121	121	121.5	121	121.5	
	:40	100	"	119.5	117.5	119	120	120	120	120.2	122	119.7	119	119	119	119.7	
	2:00	120	"	117.5	116	117.7	118.5	118.5	119	119	120	118.5	117.7	117.5	117.5	118	
	2:00	120	"	117	112.5		109			107.5		106.5	109		111	79	Temp
	:20	140	"	116	114	115.7	116.5	117	118	116	119	117.5	116.2	115.7	116	116.5	
	:40	160	"	114.5	111.7	113	114.5	115	117	114.7	117.7	116.2	115	114	114.5	115	

DATE	TIME	MIN	AMB	464	465	481	482	483	466	467	468	469	470	471	472	468	469	TEMP IDLE
6/10/[illegible]	[illegible]	[illegible]	[illegible]	111	5108	110	111	1117	115	115	114	114	112	111.5	1117	1122		
	[illegible]	1:[illegible]	[illegible]	111	112		1122			118	1138	1135		114.5			73	Temp
	[illegible]	[illegible]	"	117	112.5	116	1145	118	112	1122	1137	111	1137	1137	116.5	1117		
	[illegible]	[illegible]	"	1137	[illegible]	120	1142	1155	117	1115	1117	113	113	1162	117	116		— 140.
	[illegible]	[illegible]	"	1122	293	111.5	1135	1142	1145	1137	118	1128	123	1131	1137	115		
	[illegible]	[illegible]	"											118	160			— 149.
	1145	2:12	"			123												— 150.
	1147	2:2[illegible]	"	120			120						120					— 152.
	[illegible]	2:3[illegible]	"	99	92	90	100	1117	117	1137	118	1137	92	97	97	109		— 153.3
	[illegible]	2:3[illegible]	"											50	50			— 154.3
	[illegible]	2:3[illegible]	"					120								50		— 157.
	37	2:37	"															— 158.
	[illegible]	2:37	"										50					— 159.
	[illegible]	[illegible]	"	95	92	91	95	92	104	104	114.5	112						
	[illegible]	[illegible]	"	114.5	112		117.5			112	113	112	120	121	123	122	117	7[illegible]
	[illegible]	[illegible]	"							100								— 164.7
	[illegible]	[illegible]	"		50								100					— 164.3
	[illegible]	[illegible]	"			50								✓	✓	✓	✓	— 166
	[illegible]	[illegible]	"															— 166.3
	[illegible]	[illegible]	"	19			80	68	100	97	60	99						— 166.7
	[illegible]	[illegible]	"			✓					50							— 167.3
	[illegible]	[illegible]	"					50										— 168.
	[illegible]	[illegible]	"															— 169.3
	[illegible]	[illegible]	"	66				✓	91	63		93						
	[illegible]	[illegible]	"							50								— 174.3
	[illegible]	[illegible]	"	50				✓										— 174.7
	[illegible]	[illegible]	"							66								
	[illegible]	[illegible]	"							50		79						— 182.
	[illegible]	[illegible]	"									50						— 185.3
	[illegible]	[illegible]	"	121.5	124	125.5	127	123.5	114.5	115.5	114.5	112					80	7[illegible]
				✓	✓				✓	✓	✓							

DATE	TIME	MIN	SECS	404	405	411	412	413	416	417	418	419	420	421	422	423	424		
6/4/09	Charge			114	92		(114)			(112)	122	122	(90)		(120)				
	4:55	0	30	1102	1114		1225			1125		1172	119		1125			60	Temp
	5:55	60	"	119	1224		117			1127		1173	1125		1125			70.5	"
	6:55	120	"	1117	1175		1115			1085		1162	1115		1125			81	"
	7:21	146																	"
	8:55	240	"	106	112		1097			1095		1012	104		1097			81	"
	9:55	300	"	1095	108		1095			1095		101	101		106			80	"
	10:55	360	"	1093	106		102			9925		100	100		1090			79.7	"
	11:55	420	"	101	101		1005			100		99	1001		1095			79.5	"
	12:55	480	"	126	1178	1122	113	123		1197	111	1125	177	1125	126	1192	128		P.D
							Discharge												
6/4/09	PM 12:00	0	40	199	1472	142	141		1412	1422	1421	142	1432	140	1392	139	1362		
	:04	4	"	1334	93	133	133		133	1332	1332	133	135	1327	1322	133	133		
	:10	10	"	131	1307	1307	1361		1307	131	131	130	132	1362	130	1305	1307		
	:20	20	"	1293	1222	122	1222		126	1294	1292	1222	1295	1222	1222	1222	1221		
	:40	40	"	125	124	125	1225		125	1257	125	126	126	1247	1245	125	125		
	1:00	60	"	1217	1207	1222	1225		1225	1227	1225	1227	1222	122	1222	1225	1222		
	1:00	60	"	1032	1082		1052			1025			1032	104		1022		79	Temp
	:20	80	"	1191	1185	1204	121		1207	1212	1212	1222	1205	1205	1205	1202	1205		
	:40	100	"	1165	1167	1192	1197		1197	1201	1201	1212	1192	1192	1192	1192	1195		
	2:00	120	"	1172	1165	1176	118		118	1192	1185	120	1184	118	1177	1175	118		Temp
	2:00	120	"	105	109		107			109			105	106		108		78.5	
	2:20	140		1155	1122	115	1152		1158	1127	1177		1185	117	116	1165	116	1112	
	2:40	160		114	111		1123		1130	114	117		118	116	114	114	114	115	

DATE	TIME	MIN	AMPS	481	483	481	482	483	466	467	468	398	561	472	568	567	TEMP
																	IDLE
6/4/09	P.M. 3:00	/80	1/0	1104	1065	1092	110	1107	1145	1145	1147	1135	1122	1112	1115	1122	
	3:00	/80	"	1097	1085		110			1002		1077	1087		1132		77.7 Temp.
	:20	200	"	166	108	105	106	107	112	112	1157	111	110	108	109	1097	
	:24	204	"		100						112	109	102	105	106	106	— 136.
	:30	210	"	109	98	103	104	105	110	111	111	1022	1095	111	100	104	
	:40	220	"	1105	90	100	102	1025	985	1095				100			— 146.7
	:44½	224½	"	100													— 149.7
	:45	225	"				100										— 150.
	:46	226	"												100		— 150.7
	:46½	226½	"										100				— 151.
	:47	227	"					100									— 151.3
	:47½	227½	"											50			— 153.
	:50	230	"	96	91	942	972	982	1006	1097	1097	1037	847	65	77		— 155.7
	:53½	233½	"											50			
	:55	235	"										50			50	— 156.7
	:56	236	"														— 157.3
	4:00	240	"	722	732	805	917	907	1015	1017	1007	1002					
	4:00	240	"	110	1145		1147			1097		1117	1117		1202		77.5 Temp.
	10 3/4	242¼	"									100					— 161.7
	10 3/4	242¼	"								100						— 162.
	10 3/4	242¼	"							100							— 162.3
	10 5/12	242½	"														— 163.3
	10 5/12	242½	"		50												— 163.7
	10 7/12	243½	"			50											— 165.
	10 8/12	244½	"								50						— 165.7
	10 9/12	245½	"					50									— 166.2
						✓											
	10	250	"	842			622		96	905		97					
	11½	261½	"				50			50							— 168.
	11½	261½	"					✓									— 171.7
	11½	261½	"	50	✓												— 172.3
	20	260	"				✓		81			882					Cells 478, 479, 480
	27	267	"						50			78.					were connected in
	30	270	"	✓								72					Endurance Section
	35	275	"									50					after this discharge
																	for 50 runs

Cells 551, 552, 558, 559. were removed and connected up on testing board for overcharge tests. See 6/7/09 in individual record book.

DATE	TIME	MIN	AIR	404	488	481	482	483	466	461	468	378	478	479	480	TEMP IDLE
6/4/09	Charge PM			144	197		185			222	124	207		124		
	4:55	0	30	1205	1332		1177			116		1245		1055		77.2 Temp
	5:55	60	"	1067	120		113			1117		1085		1032		77.2
	6:55	120	"	1117	1157		1087			1075		1027		102		77.5 "
	7:55	180	"	1082	102		1062			1025		103		101		77.7 "
	8:55	240	"	1062	1072		1032			1025		101		100		78 "
	9:55	300	"	1035	1067		1015			101		100		992		78 "
	10:55	360	"	1017	1067		101			1007		977		992		77 "
	11:55	420	"	1022	1067		1015			1000		1005		992		77.5 "
	11:55	420		1017	1157	113	1137	1137	110	1177	1175	1175	117	1175	115	P.D. TEADING
			Discharge.													
6/5/09	A.M. 12:00	0	40	145	147	143	141.5	141.5	143	142.5	132	132.5	142	132.5	131	
	:05	5	"	133	132	132	133	132	134	133	132	132.5	133	132.5	132.5	
	:10	10	"	130.5	131	131	131	131	131.5	131	131	133	131	132.5	132	
	:20	20	"	128	128	128	128	128	129	128	128.5	130	128	128	128	
	:40	40	"	125	126	125	125	125	125.5	125	126	126	125	125.5	126	
	1:00	60	"	122.5	123.5	122.5	123	123	123.5	123.5	124	123	122.5	122	121.5	
	1:00	60	"	124	108.5		104			104		102		102.5		77
	:20	80	"	122.5	119.5	121	121.5	121.5	121.5	120	122	121.5	121	122.5	120	
	:40	100	"	118.5	117	119	119.5	119.5	120.5	120	121	119.5	120	119	119.5	
	2:00	120	"	117.5	115.5	117.5	117	118	119	119.5	120	118.5	119	118	117	
	2:00	120	"	105.5	109		107			104.5		104.5		103.5		76.5
	:20	140	"	116	114	115.5	116	116	117	118	119	117	117.5	117	116	
	:40	160	"	114	111	113	113.5	114	116.5	116.5	117.5	115.5	116	115	114.5	

DATE	TIME	[illegible]	[illegible]	[illegible]	404	405	406	402	403	466	467	468	398	471	479	480	1066	
6/5/09	AM 3:00	185	40		112.5	117.7	113	113	111	115.	115	116	114	114	112.5	112		
	3:03	185	"		115.7	117		108			116.5		105.7		107		76	Temp
	10	190	"			105.6												
	20	200	"		107.5	112.5	116	116	107	112.5	112.2	112.7	111	112.7	110	112.7		
	23	205	"			108												
	30	215	"		105	99	105.5	112.7	115	110.5	111	112.2	113	113	113	112.7		— 138.7
	33	220	"		112.5	99.7	100	105.2	102	108.2	108.5	112.2	112.2	112	110.2	115		
	40	225	"					120										— 146.7
	43	230	"		100													— 148.7
	45	235	"						100									— 149.7
	50	230	"		97	97	97.5	96	97	105	105.5	117	113	115	113	112		— 150.7
	4:00	235	"		92	97.7	97	90.5	90.5	102	102	111	100.2	111	111	112		— 153.3
													100					— 160.
	4:00	240	"		111	112.5		112.5			108.5		108.5		112		75.5	Temp
	02	240	"										100					— 161.7
	03	245	"									113		110				— 162.
	04	250	"								100							— 163.7
	05	255	"							100								— 163.3
	07	277	"			50												— 164.7
	08	275	"				50					50						— 165.7
	09	275	"						50									— 166.3
	11	275	"					50										— 167.6
	12	275	"											50				— 170.3
	14	275	"								50							— 172.
	17	275	"		50													— 173
	20	275	"							82								
	22	275	"							50			117		112	112		— 178.7
	24	275	"															
	30	275	"										77.5		57.5	60		
	31	275	"												50			— 181
	35	275	"										50					— 183.3
	40	275	"													57.2		
	41	275	"													50		— 187.6
	47	275	"		117.7	120.5	120.7	121.2	120	112.5	116	114.2	113	117	115.5	113	75.2	Temp

DATE	TIME/MIN	RATE	404	488	481	482	483	466	467	468	398	478	479	480	TEMP IDLE
6/5/09	charge		145	98		116			123	125	108		125		
	A.M. 1155		117	122		119			117		117.7		117.7		102 Temp
	545		117.7	117		114			117		112		113		75.5 "
	645		112.5	116		109.5			106.2		108.5		107		75.5 "
	745		107.5	111		105			102		104		102.5		75.5 "
	845		103.2	109		102			99.2		99.7		99		76 "
	945		101.2	104.7		99.7			97.5		98		97.7		76.2 "
	1045		100	103		97.7			97.2		96.2		97.7		76.7 "
	1145		99	102		96.5			96		96.5		98		76.5 "
	1155		103.7	110.7	112.5	113.7	117	119.5	118	112.2	112.5	114	113.7	116	TIDING
			Stood thirty six hours over Sunday												
			Disc charge												
6/7/09	A.M. 1200	0	110	123	122.5	120.5	119.7	117	117	117.7	117.5	122	120	122.5	79 Temp
	1200			79.5	79.5		79.5			79.5			79.5		
	104	1	"	112.5	120.5	122	120.5	122	121	123.7	123.5	122.5	122.5	123	
	1.0	1.0	"	121	119.5	120	120.5	121	121.7	121.5	122.7	121.7	121	121	
	2.0	2.0	"	119.7	118	119.5	120.5	120	120.5	120.5	120	120.7	120	120	
	4.0	4.0	"	118.2	116	118	119.7	119.7	120	120.5	120	119.7	119	119	
	1:00	6.0	"	116	113.7	117	117.7	117.7	118	119	117	117.7	117	116.2	
	1:00	6.0	"	87	88.5		88			96.5		87.2	88.5		79 Temp
	2.0	8.0	"	115	112.5	116	116.5	116.5	117.5	117.7	116.5	116.2	117	116.2	117.7
	4.0	10.0	"	114	110.5	114	116	115.5	116.5	116.5	115	115.5	116	115.7	114.5
	2:00	12.0	"	112.5	108.2	111.7	112	113	114.7	113.7	112	114	115	114.2	113.7
	2:00	12.0	"	97	96		99			96		97	96		78 Temp
	2.0	14.0	"	110.5	105	107	109.5	112.5	113	112	109.5	113	114	113.7	112
	4.0	16.0	"	108	103.5	106	107	108	113	111.5	114	111	112	111.5	110

DATE	TIME	MIN	A/113	404	486	481	482	485	460	467	428	398	478	479	480	TEMP HOLE
6/7/93	2:07/2	10/2	40		100											111.7
	2:01/7			102.5	96.5	80.4	105	106	111.7	111.7	113	109.5	111	110	109.5	
	3:00	180		109	95	102	102.5	106	110.5	112.5	111.7	107.5	109.5	108.5	111	
	3:00			95	100.5					99		95		95	105	77 — 126.7
				107	72	100	100	102	109	109	110.5	105.5	110	109		— 130.3
								100								— 131.7
				99	99	96	97	99	107	109.5	109	113	108.5	105	113	
				99	99	95.5	99	99.5	109.5	112	109.5	109	108.5	109.5	110	— 140
											109					— 145
														109		— 145.3
				98	99	99	99.5	101	109.5		99.5	95	100	99.5	95	— 146.7
								100	109							— 148.7
																— 149
						50										— 149.7
				50												— 150.3
								50								— 151.3
					✓			✓								— 151.7
						50										— 152.7
				50					97	97		91	93	93.5	93.5	
									50							— 158.3
						✓		✓				83	50	84.5	87	— 160
									85							
	4:00			107	107.5	109.5	111	110.7	50	106	109	105	108	105	75.5	77 — 164.7
												50		69.5	73.5	— 166.7
														50		— 169
													✓		63	
															50	— 176
				✓											109	72.5 — 179
									109.5					✓		
															✓	

| DATE | TIME | MIN | | |

DATE	TIME	MIN	BATT	404	473	481	482	483	466	467	468	378	478	479	480	TEMP. Dale
6/7/09	P.M. 3:00	180	40	1.12	1.095	1.11	1.112	1.12	1.145	1.152	1.16	1.137	1.12	1.137	1.125	
	3:00	180	"	1.12	1.14		1.137			1.125		1.145		1.127	8.4	Temp.
	.25	2.08	"	1.062	1.03	1.06	1.06	1.072	1.12	1.117	1.087	1.085	1.11	1.10	1.085	
	.30	2.15	"		1.00											- 143.3
	.40	2.20	"	1.02	.98	1.025	1.027	1.04	1.084	1.092	1.11	1.06	1.087	1.07	1.047	
	.45	2.22½	"	1.00												- 150.3
	.49	2.22	"			1.00										- 152
	.49	2.27	"				1.00									- 152.7
	.52	2.32	"					1.00								- 154.7
	.53	2.33	"	9.67	9.17	9.97	9.8	9.77	1.04	1.058	1.07	1.02	1.057	1.03	1.02	
	.59½	2.39½	"													- 159.7
	1.00	2.40	"	9.37	8.85	9.05	9.4	9.3	1.02	1.02	1.00	1.00	1.025	1.02	1.00	- 160
	1.00	2.40	"	1.167	1.27		1.212			1.187		1.165		1.17	8.47	Temp.
	.01½	2.41½	"							1.00			1.00			- 163
	.06	2.46	"					1.00								- 164
	.07	2.47	"		.50						.50					- 164.7
	.08	2.48	"			.60		.80								- 165.3
	.09	2.49	"													- 166
	1.14	2.54½	"				.50									- 167.7
	.15	2.55	"	.742	✓	✓		✓	9.02	6.45		9.17	9.21	9.3	9.45	
	.16½	2.56½	"						.50				.50			- 171
	.18	2.58	"	.50												- 172
	.18½	2.58½	"						8.02			8.7		8.8	9.27	- 172.3
	.20	2.60	"						.50							- 177
	1.24½	2.64½	"									.50		6.47	7.45	
	.30	2.70	"													- 180.7
	.31	2.71	"													- 182
	.33	2.73	"										✓		✓	6.82
	.40	2.80	"												.50	- 189.7
	1.44½	2.84½	"													
												1.237		1.237	1.212	8.45 / emp.

Cells 481, 482, 483 were remarked and corrected up on testing board for overcharge tests ✓

See 6/7/09 in individual record book.

DATE	TIME	MIN	TIME	1/64	1/66	1/67	1/68	3/8	1/28		1/79	1/80	
6/1/09	Charge			#147	#100	#(205)	#187	#210			#(37)		Temp.
	4:55	0		1262	131		126		126		126	80.2	"
	5:55	60	"	1202	1205		120		120		1205	85.5	"
	6:55	120	"	1172	1197		1132		115		1142	87.2	"
	7:55	180	"	112	115		1102		1097		1102	87.5	"
	8:55	240	"	1092	1095		1072		1065		108	86.	"
	9:55	300	"	1069	107		104		105		106	86.7	"
	10:55	360	"	1045	1065		1035		1047		1042	87	"
	11:55	420	"	104	106		104		1042		104	86.2	"
	12:55	480	"	176	176	176	175.7	175.7	174.7	175.5	174.2	77	T.D. READING
	Discharge												
6/1	12:00	0	40	143.7	142.2	143.7	142.2	142	143	143	139.7	139	
	.04	4	"	133	132.2	133	132	132	132.5	133	133	133	
	.15	15	"	130.5	130	131	131	131	132.2	131	131	131	
	.20	20	"	128	127	127.5	127.5	128	129.5	128.2	128	128	
	.40	40	"	124.2	123.5	125	126	125.5	125.5	125	124.5	124.2	
	1.00	60	"	122	121	123	123	124	123	123	122.2	122	
	1.05	65	"	117.2	118		119		118		118	117	Temp
	.20	80	"	120	118.5	121	121.5	122.2	120.5	121	120.2	120	
	.40	100	"	118.5	117	120	119.2	121	119	120	119.5	118.5	
	2.00	120	"	117	115.5	119	119	120	118	118.5	118	117.5	
	2.05	125	"	116	114		114		116.5		116	115.5	Temp
	.20	140	"	115.7	113.5	117.7	117	118.5	116.5	117.5	117	116	
	.40	160	"	114	111	116.2	116.2	117.5	115	116	115	114	

DATE	TIME/TIN	A/1	B/40	4/88	4/66	4/67	4/68	378	4/78		4/79	4/80	TEMP IDLE	
6/8/79	2:00	2.5	40	111	107	104.2	111	111.7	112.5	112.7	113	111.5		
	2:00	2.5	40	109.2	112.7		111		111.5		110		83	Temp
	.10	2.5			108									
	.20	2.5		107	108	112	111	113.5	112.7	111	110	108		
	.30	2.5			108									138.7
	.40	2.5		112	99	112.5	111	112	112	109.7	108.2	108.2		
	.50	2.5		109	99	112	112.5	111	112	109.5	108.2	107		
	1:00/2:00	2.5		108										149.7
	.10	2.5		97	99	112	108.5	111.7	108.5	108.5	108.2	108.2		
	.20/2:20	2.5							108			108		155.
	.25	2.5												156.7
	.30/2:30	2.5						110			108.2			157.7
	.40	2.5						95						158.7
	3:00	2.5		97.7	108.2	111	108		97.7	108	95	97		160.
	3:00	2.5		112	112.2	108	112		112.2		111.5		82	Temp
	.10	2.5												161.5
	.19/2:19	2.5			50			50						163.
	.20	2.5		80		93	97.7		92	80.5				
	.20/2:20	2.5					50							169.
	.30	2.5								50				170.
	.35	2.5		50										170.7
	.40	2.5				65			75.5		92.2	87.5		
	.45	2.5				50								175.3
	.50	2.5							50		50			178.7
	.55	2.5										74		179.3
	.59	2.5										50		
	3:00	2.5												186.7
	4:00	2.5		121.2	119.2		120.5		116.5	✓	120		75	Temp
											✓	✓		

DATE	TIME	MIN	AMB	465	466	467	468	469	470	471	479	480	TEMP IDLE	
4/6/09	10 Kang		94	101	(124)	128	211				(122)			
	4:55	0	23	123	122		117.5		123.7		120.7	20.5	Temp	
	5:55	60	"	119.7	115.5		115.2		113.5		117	78	"	
	6:55	120	"	112	112		109.5		110		107	79	"	
	7:55	180	"	107	106.5		103.7		104		104.5	79.2	"	
	8:55	240	"	103	104		100		102		102	78.5	"	
	9:55	300	"	100	102		100		99		99	80	"	
	10:55	360	"	100	100		98		98		103	78	"	
	11:55	420	"	99	99.5		99		97		99	78	"	
	12:55	480	"	117	115.7	119	118.5	119	117	119.7	117	117		C.D.
				Discharge										
4/8/09	PM 12:00	0	40	140	142	139	135	132	130	137	140	141		
	01	4	"	133	139	139	131	132	130	133	133	133		
	10	10	"	131	130.7	132	131.5	132	130	131.7	130.7	131.2		
	20	20	"	128.7	128.2	129	128.5	128	129.5	128	129	129		
	40	40	"	125	124.7	125.2	125.2	125.5	124	125.2	125	125		
	1:00	60	"	122.2	121.7	123	123.5	124	123	122.8	122	122		
	1:00	60	"	102	103.7		103		100.5		102	78.7	Temp	
	:20	80	"	120.1	119.7	121.2	121.5	122.5	120.7	121.2	120.5	120.2		
	:40	100	"	118.5	117.2	117.7	120.2	121.5	119.2	120	119.5	118.5		
	2:00	120	"	117.2	115.7	118.5	119.2	120.1	118	118.5	118.1	117.5		
	2:00	180	"	103.5	105.7		105.2		103.2		104	78.7	Temp	
	:20	140	"	115.5	113.5	117.2	117.7	118.5	117.2	117	116.5	116.7		
	:40	160	"	113.5	115	116	116.7	117.2	116.5	116.5	116.5	113.5		

DATE	TIME	MIN	RATE	704	488	466	467	468	398	478		478	480	TEMP IDLE	
6/8/09	3.00	18	40	1005	1022	1137	[illegible]	[illegible]	1022	1120		1123	1167		
	3.00	18	"	1052	105		121		106			106		775	Temp.
	.20	200		100	1.02	1.07	1.12	1.04	1.09	1.04		1.07	1.04		136.7
	.25	205	"		100										
	.30	210	"	103	982	1.087	1.102	1.12	1.067	1.097		1.074	1.04		
	.38½	218½	"	100											145.7
	.40	220	"	995	942	1.062	1.081	1.101	1.037	1.065		1.041	1.017		151.3
	.47	227											100		
	.50	230		952	897	1.025	1.05	1.07	100	1.037		1.000	982		153.3
	.55	235										100			155.3
	.58½	238½			100		100								157.7
	.58½	238½								100					159.
	4.00	240	"	90	76	877	1.00	942	947	984		962	947		160.
	4.00	24	"	1.025	1.08		108		1.027			1.082		765	Temp.
	.10	250	"		150			50							163.3
	.19½	259½	"	775		88	764		90	762		902	912		169.
	.14½	254½	"				50								
	.14½	254½	"	50						150					169.7
	.20	260	"			50			785						170.3
	.20½	260½	"						150			775	942		172.3
	.27	267	"									50			177.
										✓					178.
	30	270	"										632		
	.38	278	"									✓	150		185.3
													✓		

DATE	TIME	MIN	AMB	464	465	466	467	468	378	478	479	480	TEMP. IDLE	
6/8/09	change			149	102		127	129	212					
	4:55	0	30	1095	1087		110		111		1120			Temp
	5:55	60	"	1097	1095		1095		1067		1062			"
	6:55	120	"	1047	106		101		1017		1005	149		"
	7:55	180	"	1012	101		96		977		97	145		"
	8:55	240	"	977	982		942		957		95	145		"
	9:55	300	"	97	972		947		96		95.7	145		"
	10:55	360	"	96	98		97		955		97.5	142		"
	11:55	420	"	95	95.5		977		952		95	77		"
	11:55	420	"	150	150	1165	1195	1175	179	1255	1275	1272		G.D.
6/9/09	A.M.			change										
	12:00	0	40	1175	1127	115	1127	1123	147	147	141	1132		
	10	4	"	133	132.5	132.7	133.7	133.5	135	133.5	133	133		
	20	10	"	131	130.2	131.5	131.5	131	132.5	131	131	131.5		
	30	20	"	127.5	127.7	129	129	127.5	130	127.5	127.5	127.5		
	40	30	"	125	124	122	125.7	126	126	125.5	125	125		
	100	60	"	122	121	122.5	122.5	124	123	123	122.5	122.2		
	100	60	"	102	102		102.5		102		102.7	77.7		Temp
	120	80	"	120	119	119.5	120.7	122.5	121	121	120.5	120		
	140	100	"	117.5	117.5	120	120.5	121.5	119.5	119.7	117.5	117.2		
	200	120	"	117.5	116	119	119.5	121	117.5	117.5	117.5	117.5		
	400	120	"	102	104.7		103		102.7		104	78		Temp
	120	140	"	116	114.2	115	117.5	119	117	115	117.5	115		
	40	160	"	114	112.2	112.5	116.5	117	115.5	116.5	116.5	114.7		

DATE	TIME	MIN	AMP	404	445	446	447	448	395	478		479	480	106	
3/9/77	2:00	[illegible]	2	111	124	114.2	115	127	117	114		112.5	111		
	3:00	120	"	106	106		127		105.5			127		77.7	Temp
	.10	195	"		127										
	.20	2:10	"	127.7	127	127.2	112	114	110.5	111.7		111	105.2		
	.30	2:15	"	105.7	121.5	111	117	113	109	110.5		112.7	117		
	.39	2:21			129										
	47	2:27	"	102	97	119	127	111	126.2	108		107	114		— 142.7
	.47	2:27	"	100											— 151.3
	.50	2:30	"	96.2	97.7	102.2	127.7	109	103.7	126.2		97	111		
	.59	2:39	"										102		— 156.3
	4:00	2:40	"	127.7	127.7	102.2	103.7	113.7	110	102.5		100	97.7		— 160.
	4:00	2:40	"	109	109.7		112.2		109			112.7		78	76.5
	.05	2:45	"					100							— 162.3
	.02	2:42	"			110									— 163.3
	.05	2:45	"							100					— 165.7
	.05	2:45	"		-		100								— 164.3
	.10	2:50	"					50							— 166.7
	.12	2:52	"	86	50	95.7	95		94.5	93		95	94		— 168.
	120	2:50	"	56.2		50	50		86.5	50		89.5	91		— 173.3
	.21	2:51	"	60											— 174.
	.26	2:56	"			50									— 179.3
	.30	3:00	"						71			95	94.5		
	.32	3:02	"						50						— 183.3
	.37	3:07	"									50			— 184.7
	.40	3:10	"										70		
	.47	3:17	"										50		— 191.7
	47	2:17	"	115	117.5		117		115.5			112		79	Temp

Cells 469, 643, 646, 773, 774, 775 were connected in Endurance Section after this discharge for 6 runs.

DATE	TIME	MIN	MAR	409	408	409	642	646	466	647	441	372	472	479	480	773	774	775	1015	
6/9/09		Charge		150	102		(26)			(124)	130	213		(120)			(26)			
	AM 4.55	0	30	1225	119		79.5			123		1232		122			81.7		78.5	Temp
	5.55	60	"	1162	1142		84.5			113		116		1147			86		78.5	"
	6.55	120	"	111	115		87.2			102.2		1107		109			89		78.5	"
	7.55	180	"	111	1085		89			1042		101		105			92		785	"
	8.55	240	"	1027	105		90			102		1025		1012			94		785	"
	9.55	300	"	1412	1025		92			99.2		100		99			95		765	"
	10.55	360	"	98	101		93			97		977		989			97		76	"
	11.55	420	"	96.5	102		96			98.2		98		101			98.5		76	"
	11.55	420	"	116	1122	1165	114	1143	1142	1127	1127	1132	114	1126	1132	1142	114	1145		C.D
				Discharge																
6/9/09	PM 12.00	0	40	144	142.2	144.5	144.2	144	143.7	143	143	143	141	141	142.2	142.5	142	142		
	04	4	"	132	132	132.2	132.2	132.2	132	132	132	132	132	132	132.2	132	132	132		
	10	10	"	131	131	132	131.2	131	131.2	131.2	131	131.2	131.2	131	131.2	131	131	131		
	20	20	"	129.2	129	129	129	129.2	129	129	129	129	129.2	129	129.2	129	129	129		
	40	40	"	125	125	125.2	125.2	125.2	125.2	125	125	125	125	125	125	125	125.2	125		
	100	60	"	123.2	123.2	123.2	123	123.2	123	123	123	123	123.5	123.5	123.2	123	123	123		
	1.00	60	"	101.5	105		109			101.5		105		102			104		77.5	Temp.
	20	80	"	120.5	119.7	121.7	120.5	122.2	121.7	121.2	121	120.5	122.2	121.5	121.2	121.7	122	122.2		
	40	100	"	118.5	118.5	120	118.5	120.2	120	120	121.2	118.7	118.5	118.7	120	119.7	119.7	119.5		
	2.00	120	"	117.2	116.2	116.7	116.7	117.2	117.5	117.2	116.7	115	116.5	115	117.2	116.7	116.5	116.7		
	20	120	"	102.5	101.5		102.5			102.2		101.5		101			102.5		74	
	40	140	"	115.7	114.5	115.5	115.7	115.7	115.7	115	115.7	114.2	115.5	115.7	115.7	115.7	115.7	115.7		
	40	160	"	113.7	113.2	113.2	113.5	113.5	113	113	113.5	113.5	113.7	113.7	113.2	113.7	113.7	113.7		

DATE	TIME	MIN	AMB	407	408	469	672	676	466	467	468	398	478	477	470	473	474	475	odd	
	AM																			
6/9/09	3:00	180	40	1.007	1.092	1.144	1.14	1.144	1.145	1.145	1.147	1.12	1.132	1.122	1.111	1.152	1.144	1.142		
	3:00	180	"	1.03	1.085		1.092			1.092		1.045		1.035			1.12		74	Temp.
	"	200	"	1.062	1.092	1.124	1.12	1.132	1.115	1.12	1.135	1.082	1.12	1.087	1.107	1.137	1.13	1.122		
	30	210	"	1.03	1.000	1.112	1.107	1.12	1.097	1.12	1.12	1.045	1.085	1.06	1.04	1.125	1.12	1.11		
	.35	215	"		1.00															- 143.3
	.40	220	"	1.002	8.22	1.10	1.092	1.11	1.097	1.092	1.097	1.03	1.067	1.055	1.03	1.117	1.11	1.10		
	.40½	220½	"	1.00																
	.50	220	"	.9655	.982	1.08	1.077	1.092	1.067	1.067	1.077	1.00	1.032	1.00	1.00	1.102	1.09	1.08		- 147.
	4:00	240	"	.917	.8755	1.044	1.04	1.045	1.037	1.037	1.00	.952	1.00	.955	.962	1.02	1.037	1.042		- 152.3
	4:00	240	"	1.06	1.117		1.077			1.085		1.06		1.06			1.065		74	Temp.
	.01	241	"						1.00											
	.06½	246½	"				1.00													
	.07½	247½	"			1.00														
	.08½	248½	"																	
	.10	250	"		.50			1.00			.50						1.00			
	.14	254	"													1.00				
	.15½	255½	"						.50								.50			
	.16	256	"										.50					.50		
	.16½	256½	"				.50													
	.18½	258½	"	.50													✓	✓		
	.19½	259½	"			.50	✓													
	20	260	"			✓		.807	.76			.742		.76	.872	.81				
	23½	263	"													.50				- 175.3
	24	264	"					.50	.50											- 176.7
	24½	264½	"													✓				- 177.3
	26	266	"									.50								- 178.3
	27½	267½	"					✓						.50						
	27	270	"												.725					
	40	275	"												.5625					
	46	286	"												.50					- 190.7
															1.15				74	Temp.

DATE	TIME	MIN	AMB	404	488	469	643	646	466	467	468	398	478	477	480	772	774	176	dole Temp.
6/9/09	P.M. Charge			101	104		27		(129)		101	114		(131)			(127)		
	7:55	0	30	114	112		110		114			115		112			122		73.7 Temp
	8:55	60	"	113.2	111.		109.2		109.			111.5		109			115		74 "
	6:55	120	"	107	115		105		106			107		107			111.2		73.7 "
	7:55	180	"	106	109.2		103		101.5			103.2		102			108		74 "
	8:55	240	"	102	106.5		101		99.5			100.7		100.2			106.7		74.7 "
	9:55	300	"	101	101		100.2		99			99.5		98.2			106		74.7 "
	10:55	360	"	101	103.5		100.2		99			99.5		99.2			105		75 "
	11:55	420	"	101	103.7		101.7		100			100		99			106.2		75 "
	11:55	420	"	117.5	117	117	117	117.7	117.7	116	114	116.7	114	117	114.5	115.5	117.5	116.5	DEPTH READING
6/10/09	P.M. Discharge																		
	12:00	0	70	145	137.7	145	145	144	144	143		143	143.5	140.7	139.7	143	143	140	
	.04	4	"	134	133.5	134	133.7	134	134	134		133.7	133.7	133.7	134	133.7	133.7	133	
	.10	10	"	131.7	131.5	132	132	132	132	132		131.7	133	132	131.7	132	131.7	131.7	
	.20	20	"	129	128.5	129	129	129.7	129.7	129.5		129	130.2	129.5	129	129	129	129	
	.40	40	"	128.5	128	128.5	128.5	128	128	128		128	128.5	128.5	128.5	128.5	128.5	128.5	
	1.00	60	"	123	123	123	123	123	123.7	123.7		123.5	123	123	122.5	123.5	123.5	123.5	
	1.00	60	"	103	102.5		103		102.5			102.5		103		102.5		76	Temp
	.20	80	"	122.5	122	122.5	122	122	122.7	122		122.5	122.5	122	122.5	122.5	122	122	
	.40	100	"	118.7	118	118.7	119	120	120	120.2		120.5	119	120	119	118	119.7	119	119.7
	2.00	120	"	118	117	118.5	118	119.5	119.5	120		120.5	119.5	118.5	118.5	119	118.5	118.5	
	2.00	120	"	105.5	106.7		106.5			104		104		103		103		76	Temp
	.20	140	"	116.5	115	117	117	118	118.2	118.5		119.7	117	118	117	116	118	117.5	
	.40	160	"	114.2	112.2	115.7	115.5	116.5	117	117.7		118	116.5	116	115.7	115.7	116.7	116	

DATE	TIME	MIN	AMP	404	408	469	643	646	466	467	468	398	478	479	480	773	774	775	IDLE	
8/10/09	3.00	180	40	111.7	109.5	114	113.7	115	115	115	116	113	114	113.5	113.5	115	114.5	114.2		
	3.0	180	"	106.5	111.5		108			106.5		105		105.7			115		77	TEMP
	.10	190	"		108															
	.20	200	"	107.7	105	112	111.7	113	112.2	113	114	109.7	111	110	107	113	112.5	112.5		
	.30	210	"	105	102							107.5	109	108	104.2					
	.36	216	"		100															
	.40	220	"	101.5	98	100.2	10[illegible]	110	108	109	111	104	107	104.5	101.5	110	109	109.7		– 144.
	.45	225	"	102											100					– 150.7
	.50	230	"	97.5	92.5	105	105	108	105	106.2	108.2	100.5	104	101	97.5	106	105	107		
	.53	233	"									100								– 155.3
	.54	234	"											100						– 156
	.57½	237½	"			100	100													– 158.3
	.58	238	"													100	100			– 158.7
	4.00	240	"	93	87	98	97.7	104	101.5	102.2	102	92	100	97.5	92.7	90	84.2	100		– 160.
	.02	242	"								100									– 161.3
	.03½	243½	"						100											– 162.3
	.04½	244½	"							100										– 163.
	.05	245	"														50			– 163.3
	.05½	245½	"					100								50				– 163.7
	.06	246	"	111.2	114		113			106.5		109		107.7			121		76.5	Temp/
	.07½	247½	"				50									✓				– 165
	.09	249	"								50						✓			– 166.
	.09½	249½	"			50	✓											50		– 166.3
	.10½	250½	"		50															– 167.
	.14½	254½	"					50										✓		– 169.7
	.17½	257½	"			✓				50										– 171.7
	.18	258	"					✓					50							– 172.
	.19	259	"	50																– 172.7
	.20	260	"						78.5			83		84	88.5					
	.25	265	"						50											– 176.7
	.30	270	"									50		53.7	79					– 180.
	.31	271	"											50						– 180.7
	.40	280	"												60.5					
	.43½	283½	"												50					– 189.
	.43½	283½	"	117	122.5		120.5			116.7		113.5		115			126		77	Temp/o

DATE	TIME	MIN	AMPS	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475		IDLE	
6/9/09	Discharge			1.52	1.25	(1.25)		(1.30)			1.32	1.25	(1.32)		(1.25)						
	4:25	0	20	1.27	1.25	1.25		1.27				1.16	1.25		1.25			77		Temp	
	4:45	20	"	1.25	1.21	1.25		1.25				1.22	1.23		1.25			77		"	
	5:05	40	"	1.21	1.15	1.22		1.22				1.18	1.07		1.17			77		"	
	5:25	60	"	1.15	1.12	1.22		1.22				1.12.2	1.04		1.09			77		"	
	5:45	80	"	1.04	1.07	1.02		1.03				1.02	1.02		1.03			76		"	
	6:05	100	"	1.015	1.01	1.00		98				99	98		1.057			757		"	
	6:25	120	"	99	1.04	986		98				977	965		1.045			75		"	
	6:45		"	1.00	1.035	997		977				97	975		1.04			76		"	
	7:05		"	1.18	1.167	1.17	1.177	1.135	1.177	1.16	1.185	1.165	1.17	1.147	1.175	1.174	1.167	1.177			C.10
				Discharge																	
6/10/09	PM 12:00	0	40	1.457	1.49	1.45	1.492	1.495	1.45	1.492	1.44	1.45	1.477	1.472	1.47	1.47	1.472	1.472			
	04	4	"	1.357	1.335	1.332	1.337	134	1.345	1.342	1.344	1.34	1.337	1.332	1.337	1.335	1.337	1.335			
	10	10	"	1.312	1.31	1.313	1.31	1.317	1.315	1.313	1.31	1.307	1.312	1.31	1.313	1.310	1.31	1.31			
	20	20	"	1.262	1.26	1.262	1.262	1.262	1.262	1.28	1.26	1.22	1.26	1.277	1.28	1.28	1.265	1.277			
	40	40	"	1.25	1.25	1.25	1.25	1.255	1.257	1.252	1.267	1.26	1.25	1.25	1.25	1.252	1.25	1.25			
	1.00	60	"	1.22	1.215	1.227	1.225	1.23	1.23	1.231	1.227	1.227	1.222	1.222	1.22	1.222	1.225	1.225			
	1:00	60	"	1.27	1.04	1.03				1.007		1.004	1.00			1.08		747		Temp	
	20	80	"	1.202	1.195	1.21	1.207	1.217	1.215	1.215	1.225	1.205	1.21	1.207	1.202	1.212	1.207	1.21			
	40	100	"	1.165	1.175	1.195	1.19	1.26	1.20	1.202	1.215	1.187	1.197	1.19	1.185	1.187	1.19	1.192			
	2:00	120	"	1.027	1.07	1.027				1.042		1.032		1.04			1.17		75	Temp.	
	2:00	120	"	1.22	1.175	1.04	1.16	1.18	1.177	1.165	1.18	1.177	1.185	1.18	1.172	1.182	1.18	1.18			→ Readings mixed
	20	140	"	1.152	1.157	1.15	1.16	1.17	1.175	1.18	1.165	1.16	1.17	1.165	1.167	1.17	1.165	1.167			
	40	160	"	1.126	1.12	1.15	1.145	1.167	1.162	1.165	1.172	1.162	1.155	1.145	1.12	1.157	1.15	1.15			

DATE	TIME	MIN	AMPS	464	466	456	465	446	466	467	468	356	458	459	456	273	274	275	IDIF	
6/10/09	1 P.M.																			
	3:00	180	40	1107	1082	1135	1113	1142	1142	1145	1157	1112	1132	1125	1087	1142	1134	1137		
	3:00	180	"	1065	1072		1077			1065		1106		1065			1146		707	Temp
	22	202	"	1066	1035	1.11	1.11	1122	1.117	1122	1137	1082	1.10	1092	1045	1122	1115	1119		
	30	210	"	1047	1065	1072	1072	111	110	1107	1112	1106	1082	1065	102	1107	1077	1102		
	30 1/2	210 1/2	"		1.00										100					— 141.
	31	217	"																	— 146.
	40	220	"	1065	967	107	1075	1092	1075	1085	1065	103	1061	1035	1075	1082	1062	1081		
	40 1/2	220 1/2	"	1.00								100								— 148
	48 1/2	228 1/2	"																	— 152.3
	50	230	"	962	925	102	1032	1065	1042	1057	1076	1072	1027	1000	1072	1065	1072	1039		
	50 1/2	230 1/2	"			1.00														— 153.3
	54 1/2	234 1/2	"				100													— 155.7
	56 1/2	236 1/2	"															100		— 156.3
	57 1/2	237 1/2	"																	— 157.
	58	238	"													50	50			— 158.3
	59	239	"																	— 158.7
											100		100				1			— 159.3
	4:00	240	"	984	984	912	978	100	100	1012	984	96	987	982	95			1077		— 160.
	4:10	250	"																	
	10 1/2	250 1/2	"	1107	1065		1082			1122		1117			1127			1120	76	Temp
							50			100										
	103	253	"			50												50		— 161.7
	107	257	"																	— 162.
	108 1/2	258 1/2	"		50						50									— 164.7
	109 1/2	259 1/2	"																	— 165.7
	110	260	"	1015				50	927	86		907	877	912	917					— 166.3
	110 1/2	260 1/2	"							50										— 169.
	115 1/2	265 1/2	"																	— 171.
	119	269	"	50																— 171.3
	120	270	"						707											
	123	273	"						50			1002		817	86					
	128	278	"																	— 175.3
	128 1/2	278 1/2	"									50								— 178.7
	130	270	"											50						— 179.7
	129	279	"												727					
															50					— 186.

Cell #482 put in line for 50 more ender once runs.

DATE	TIME	MIN	A118	704	488	467	643	646	482	466	467	468	398	478	479	48	773	774	774	TEMP HOLE
6/10/09	Charge		#103	106		(29)		#121		(131)		(133)	#216		(133)			(29)		
	4:45	0	30	102/217			119		77.2		117		117.7		118			123		76. Temp
	5:45	60	"	116	120.7		111.7		107		111.2		113		111			118.2		76.2
	6:45	120	"	117	115.2		108.2		92		107.7		107.2		108.2			113		76.5 "
	7:45	180	"	109	112.7		106		94		106		104.7		104.5			110.7		77 "
	8:45	240	"	104	109.7		103		97.5		102.7		103.7		103.2			110		77.2 "
	9:45	300	"	103.5	106		101		97.7		102		100		101.7			107		77.2 "
	10:45	360	"	101.7	107		103		98.2		102.2		100		101.7			107		76.5 "
	11:45	420	"	102	105		102.5		99.7		103		100.5		102			107.2		77.7 "
	12:45	480	"	102.2	106.2		104.5		104.5	102.2	102.5		102	102	102.2	102	104.5	103.5	102	T.P. TITRATING
6/11/09	Discharge																			
	12:00	0	1/2	144	143	143.7	142	142.5	144	141	144.5	144.5	144.5	139	139	137.7	135	135	135	
	.04	4	"	132.5	132.2	132.5	132.5	132.5	132.5	133	133	132.5	132	133	132.2	133	132.2	132.5	132.5	
	.10	10	"	130.5	130.2	130.5	130.5	130.5	130.2	131	131	130.5	130	131	130.5	131	130.5	130.5	130.5	
	.20	20	"	127.5	127	127	127	127.5	127	127	127	127	127.5	127	127	127	127	127	127.5	
	.30	30	"	124.2	124	124.7	124.5	124.5	124.5	125	125	125.5	124.5	125	124.5	124.5	125	125	124.5	
	1.00	60	"	122	121	122	122	122	122.5	123	123	122.5	122.5	122	122	122	122.2	122	122.5	
	1.00	120	"	109.7	110		105		107		109.7		105.2		104		112.5		76.2	Temp
	.20	80	"	120	119	120.7	120	120.7	121.5	121	121.5	122	120.5	121	120.2	120	121	121.7	121	
	.40	100	"	119	117.7	119	119.5	120	120.2	120	120.7	121.5	119	120	119	119.5	119.5	119	119.5	
	2.00	120	"	117.5	116	117.7	117	117.5	119	119	119	120	117.7	117.5	118	117	117	117	116	
	2.00	120	"	105	105.5		109.5		109		105.2		105		105.5		114.2		77.5	Temp
	.20	140	"	116	114.5	116.2	116	117.7	117	118	118	119	116.5	117	117	115	117	116	116.5	
	.40	160	"	114.2	112.2	114.5	114.2	116	116	116.2	116.2	117.5	114.5	115.5	115	112.5	115	112.5	112.5	

DATE	TIME	MIN																				
6/11/74	3:00	100	40	112	104.7	112	113	113	114.2	114.5	115		115.7	113	113.7	113	113.7	114	113	113.7		
	3:00	120	"	112	112.2		112		112.5		110			117		114.5			117.5		79	Temp
	120	200	"	104	105.7	111	111	112	112	112	113		112.7	112.7	111	113	112.5	112	111	112		
	30	210	"	104	113	109.5	113.7							113.7	113	113	113.7					
	30½	210½	"			102																145
	40	220	"	103	99	107	113.7	112.2	109	110.2	109.5		111	110.5	107	112.5	111	110	112.5	109		
	40	220	"														110					150.7
	50	230	"	110																		152.
	50	230	"	99	94.2	111.5	104	108	107	105.7	107		112.2	112.7	104	112	99.2	100	108	105.7		153.3
	50½	230½	"			110																155.3
	50½	230½	"				100															157.
	50½	230½	"											100		103						157.7
	50½	230½	"															50				159.3
	50	230	"																50	102		159.7
	40	220	"	94	87	85	86	102.5	105	102	102		112.5	98	103	92.2	93			93.7		
	40	220	"	112	102.2		110.5		117		114			117.7	100	112.5		✓	112.5		79	Temp
	40½	220½	"										100									161.
	40½	220½	"																✓			162.
	40½	220½	"			50	50	100		100												162.7
	40½	220½	"								100									50		163.7
	40½	220½	"			✓	✓						50									166.3
	41	221	"	85.7	50			60.2	101	93	91.5			93	92.2	93	92.5			✓		167.3
	42	222	"					50														168.
	43	223	"						100													169.3
	44	224	"					✓			50											172.
	45	225	"						94	70.5				85.7	50	85	85					173.3
	50	230	"	50						50												175.3
	123	263	"						50													182.3
	123½	263½	"											50		85	73.7					182.7
	124	264	"													50						183.7
	124½	264½	"						✓								61					
	140	280	"														50					189.3
	144	284	"																			
	144	284	"	119	126.5		122		125.7		119			117.2		117.2			130		79	Temp

| DATE | TIME | | AMP | | |

DATE	TIME	MIN	AMPS	424	428	469	643	646	482	466	467	468	398	478	479	480	773	774	775	TEMP. Bdle	
4/11/63	2:24	120	40	1067	1077	112	112	114	[illegible]	114	114	1152	1115	112	1117	1132	1132	112	113		
	3:00	180	"	1057	111.		1.022		110		1067		1067		1052		110			1087	Temp.
	20	200	"	1045	1002	1077	110	1117	1077	1112	1112	1127	1077	1085	1068	1025	1107	1075	1107		
	20	220	"		100																137.3
	35½	215½	"	1022	985	1077	1082	1105	1064	1085	1097	1117	1055	1062	1055	1002	1092	1077	1095		
																100					141.7
	36	216	"	100																	144
	1½	220	"	982	962	1037	1045	1082	1025	1067	1075	1075	1025	1037	1025	977	1042	1017	107		
	1½	222½	"															100			
	1½	222½	"																		149.
	1½	222½	"			100															150.7
	1½	222½	"										100								151.
	1½	222½	"																		151.3
	50	223	"	942	902	94	100	1.05	1005	104	1042				100						152.3
	53½	223½	"						100			1067	987	1007	987	957	60	1057	102		153.3
	53½	223½	"														50				155.
	53	223	"					100						100							155.3
	53½	223½	"																		155.7
	54	224	"															✓	100		156.
	54½	224½	"																		157.
	57	227	"			50															158.
	59	229	"				50					100									159.3
	1:00	240	"	882	722			775	96	100	100	922	942	985	957	94			50		160.
	1:00	240	"	109	1147	1162		1174			1102		112		111			1272		795	Temp.
	03½	243½	"		50	✓			50			50							✓		162.3
	04½	244½	"				✓														163.7
	10	250	"	745				✓	867	912	747		90	745	90	897					
	11½	251½	"								50			50							169.3
	11½	251½	"	50																	169.7
	16½	256½	"						50												170.
																					171.
	20	260	"							625			797		802	832					
	21½	261½	"							50											
	21½	261½	"									50									174.3
	31½	271½	"												50						178.3
	31	271	"																		179.3
	30	270	"											637							
	30½	270½	"										✓	50							184.3

DATE	TIME			1118	1119	1147	1148	1169	1172	1176	1182	1166	1167	1168	1178	1178	1177	1178	1173	1174	1175	TEMP IDLE	
6/1/09	change																						
	A.M.																						
	45	0	30	118	121		121.2		122			118			118.7		118			126.2		80	Temp
	55	60	"	116.7	119		114.7		116			112			111.7		113.5			118.2		80	
	65	120	"	116.2	117		107.7		113			109.7			108.2		107			116		80.7	
	75	180	"	107	113.2		105		110			103.7			106		104.5			113.2		81	
	85	240	"	106	108.7		104.2		107.2			103.2			102		102			110.7		79.2	
	95	300	"	103.2	108.7		102.7		104			102			100.7		102			107.2		78.5	
	105	360	"	101	106.2		101		106			100.2			101.7		100			109		78.2	
	115	420	"	102.5	105		101.7		105			101			102		100.5			108.5		77.7	
	125	480	"	177.7	175.7		174.5		176.2		175	171.7		179	177		177	176	172.2	175.7	173	175	172.2	177.7	TEMPERATURE READING
6/2/09	change																						
	A.M.																						
	2:00	0	40	144	143		144.7		142.2		142	141		141.7	144.7		139	139	135	136.5	135.7	139	
	.04	4	"	133	132.5		133		133		132.5	132.5		133.5	132		135	133	133.7	133	133	133	
	.10	10	"	132.5	132.7		132.5		132.2		131	132		131	132.5		132	131	131	132.5	132.2	131	
	.20	20	"	128	128		128.7		128		129	128.5		129	128.5		128.5	128.5	128.5	128	127.7	128.2	
	.40	40	"	124.2	124		124.5		124.7		125.7	125		125.5	125		125.7	125.5	125	124.5	124.5	124	125
	1.00	60	"	122	121		122.2		122		123.5	123		123	122		123.7	123	123	122.5	122	122.7	122.5
	1.00	60	"	115	117		115		117			117		117			117		117			115	77.5
	.20	80	"	120	119		120.2		120		121.5	121.5		121.5	122.2		120.5	121	121.5	120	120.5	120	121
	.40	100	"	118.2	117.5		115		116.5		120	120		120	121		119	119	119	118.2	119	118	119.5
	2.00	120	"	117	115.5		117		115.5		118	118		119	119		117	117	116	117	116.2	117.7	
	2.00	120	"	106	105.5		106				109.7			110			104		106			105	77
	.20	140	"	115.5	117.7		116		117.5		117	116.2		117.7	115.7		116.2	116	116.5	116	116	115	116.2
	.40	160	"	112.5	111		112.2		114		115.7	114.2		112.2	111.2		117	114.2	115	112.5	111.5	112.7	112.5

DATE	TIME	MIN	468	404	488	462	643	646	482	466	467	468	398	478	479	480	773	774	776	TEST HOLE	
6/17/09	2:00		111	122.2	112.5	111.5		114.5	121.5	114.5	114.5	107.7	117.2	113	112.5	108	112.5	112.2	112.7		
	2:05		109.5	121.5			111.7		112.5		108		106.2		108			111.7		76.7	Fails
	:15		109.5	121.5												106					
	:30		112	121	112	112.2	112	112.2	112.2	112.2	112.2	112.7	113.5	109.5	109.5	107.7	111	109.7	111.7		
	:32		109.7	121	109.7	111.5	111.5	111.7	112.7	112.2	112.2	112	112.5	112	109.5	107.7	109	111.7	111.2		140.
	:36															100					144.
	:41		120	96	109.5	112.5	112.5	112.5	112.5	108	108.5	111.2	112.7	112.5	109	99	112.7	112.7	112.2		146.7
	:43																100				150
	:47				100												100				151.3
	:50		96.2	96.2	99	101	101.7	101	101.5	116		100	110.5	112	112.5	96.5	88	82.2	100		153.3
	:51					100		101					100		112.2						154.
	:52																50				155.7
	:54													100							156.
	:56																	50			156.3
	:58																✓		100		158.3
	4:00		91.5	81		50	100	96	101	101.2		100	96	96	96	93.7			76		158.7
					50																160.
	4:05		110.5	112.5	✓	110.7		112.5		111.2			109.5		111		112.2			72.2	Fails
	:02								100	109.5											161.7
	:04					✓	50											✓	50		162.7
	:07			50								50									165
	:10		90				✓	82.2	97.2	91.2			91.5	93.7	91.7	92.2			✓		
	:12									50											170.3
	:16		50					50						50							171.
	:20								76 50				82.2		83	84					
	:22						✓						82		82	79.2					176.
	:25														80						180.
	:27															50					180.7
	:31																				185.7
	:34		116	119.5		120.5		120.5		117.5			117.7		116.7			116		76	Fails

Cells 469, 643, 646, 773, 774, 775 were removed from this test and connected up on testing board for over charge tests.

See results in individual record book 6/14/09

DATE	TIME	MIN	AMPS	404	488	482	466	467	468	398		478	479	480	Idle		
	Cl AM			156	109	124		(134)	136	219			(136)				
6/17/67	4.55	0	30	119.2	122	122		115.2		113.5			113.	75.7		Temp	
	5.55	60	"	114.	116.5	114.		110.5		109.5			111.	75		"	
	6.55	120	"	111.	111.2	104.5		107.		106.			108.	75.7		"	
	7.55	180	"	106.5	106.5	102.		102.		102.			104.	75.7		"	
	8.55	240	"	101.	100.7	97.		97.5		98.			98.2	76.2		"	
	9.55	300	"	97.5	96.7	93.		95.		95.			95.7	76.5		"	
	10.55	360	"	96.	95.	93.		94.		94.2			94.2	78.		"	
	11.55	420	"	96.7	96.	93.7		94.		93.2			95.5	79.5		"	
	11.55	420	"	177.7	177.7	177	180.	179	178	178		174.2	177.7	176		C. W.	
	Stand idle 36 hours over Sunday. Charged.																
6/19	AM 12.00	0	40	122	122	122.2	122.2	122.5	122	122.5		122	122.2	122.2	78	Temp	
	12.00	0		77.5	77.7	77.2		120		77.5			120				
	.04	4	"	122	122.2	122.2	122.2	122.2	122.2	122		122	122.2	122.2			
	.10	10	"	120.2	119.7	121	121.5	121	121	122		121.5	121	121			
	.20	20	"	119	117	119.7	120	120	120	120		120	119.5	119			
	.40	40	"	117.	115	116.2	116.5	116.2	119.5	117		117	117.7	117			
	1.00	60	"	115.7	114	115.5	117	117	116.5	116.2		117	116.2	115.2			
	1.00	60	"	88	88.5	87.7		89		87			88.5		78.2	Temp	
	.20	80	"	114.2	112.2	116	116.5	116.5	117	115		116	116.5	114			
	.40	100	"	113.5	111	115	115.7	116	117	114		115	114.2	112			
	2.00	120	"	111.5	108	112	114.2	114.2	115.7	112		113	113	110			
	2.00	120	"	95	94	95.2		95.5		96			94.7		78.2	Temp	
	.20	140	"	110	106	111.2	113.7	113.7	114.5	111		112	111.7	106			
	.30	150	"	109.5	104	110.5	113	113	112	111		111	110.5	104			
	.40	160	"	109.5	102	109.5	112	112	113	108.5		109.7	109.5	102			

DATE	TIME	MIN	AMPS	404	482	483	466	467	468	398	479		479	480	Sdlc	
6/18/07	2:00	170	40	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	112	107	108		107	100		1133
	2:05	[illegible]	[illegible]	103	[illegible]	103.5	[illegible]	[illegible]	[illegible]	105	106		105	97.5		
	2:35	[illegible]	[illegible]	103	99	100		100.2		100.5			99		77.7	Temp
	[illegible]	[illegible]	[illegible]	100	[illegible]	[illegible]	100.5	[illegible]		102	100		100	97.5		126.7
	[illegible]	[illegible]	[illegible]							99	99					131
	[illegible]	[illegible]	99	99	98	100	100.5	98					100	97		133.3
	[illegible]	[illegible]	99	95.5	[illegible]	[illegible]	[illegible]	[illegible]	95	95	95.5		95.7	89		140
	[illegible]	[illegible]	99	91	[illegible]	100	100.5	97.7	97.7	97.7	95.5		97.7	95.7		146.7
	[illegible]	[illegible]						50								150
	149	[illegible]		50												152.7
	[illegible]	[illegible]	75		81	94.2	95		96.4	81			96.5	90.2		
	[illegible]	[illegible]					50									157
	[illegible]	[illegible]	50													157.3
	4:57	[illegible]			50						50					158.3
	[illegible]	[illegible]				74				75			75.7	72		
	4:55	[illegible]	107.5	106.5	107	50		109.5		108			107		80	Temp
	[illegible]	[illegible]								50						163.3
	[illegible]	[illegible]														165.3
	109	[illegible]											50			166.3
	[illegible]	[illegible]												100.2 50		170
	[illegible]	[illegible]	111.2	108	107		107			110			109.2		78	Temp

Cells 551, 552, 568, 569 were connected in Endurance Section after this discharge for 16 runs.

DATE	TIME	MIN	AMPS	404	488	551	556	772	466	467	468	348	474	479	470	569	561	1015	
6/14/09	[illegible]	[illegible]	[illegible]	157	170	(47)		25	(135)		137	[illegible]	(137)		(47)				
	4:25	[illegible]	120	[illegible]	177	177		1027		1127		1172	1125		79		78		Temp
	[illegible]	[illegible]	[illegible]	106	182	177		99		1125		103	104		85.5		76		"
	6:25	[illegible]	[illegible]	102	173.5	177		95		99		100	102		87.2		75		"
	7:25	[illegible]	[illegible]	100	1005	170		95		95		96	98		90		76		"
	8:25	[illegible]	[illegible]	97	170	91		935		945		96	95		920		757		"
	9:25	[illegible]	[illegible]	95	167	925		922		99		96	95		94		757		"
	10:25	[illegible]	[illegible]	98	98	94		94		950		96.5	95.2		96.5		77.5		"
	11:25	[illegible]	[illegible]	95	101	965		96		977		98	96		965		757		"
	12:25	[illegible]	[illegible]	158	157	1742	1737	1732	179	1722	1722	175	172	176	1742	173	174		P. 10
				Discharge															
6/14/09	PM 12:00	0	40	144	1432	145	1437	1412	1425	143	1425	1433	141	141	140	1407	141		
	04	4	"	132	137	1375	1317	131	133	1322	1325	134	1322	1321	1312	1322	1322		
	10	10	"	136	1297	136	129	129	1336	1362	130	131	130	130	130	130	130		
	20	20	"	1332	127	1315	131	132	138	1272	1272	132	1315	127	127	127	1272		
	40	40	"	129	1232	1292	1237	1237	135	1247	135	1242	1242	1242	1237	1242	1245		
	1:00	60	"	121	1207	122	1215	121	1217	121	1222	1219	1212	121	1207	122	1222		
	1:00	60	"	103	104	106		99		1035		1025		103		1025		805	Temp.
	1:00	[illegible]	"	1155	1132	1207	1202	120	1205	1205	1217	1155	120	1197	115	1207	1237		
	1:00	100	"	1177	1145	1175	1187	1185	1185	1175	1205	1172	1185	118	1172	1182	1177		
	2:00	120	"	1162	1152	1177	1175	1172	118	118	1185	1162	1175	1167	1155	118	1182		
	2:00	120	"	1065	1075	1077		1027		1067		104	106		1062			812	Temp.
	3:00	140	"	115	1137	117	112	1155	1172	1172	118	1155	112	1155	1137	1127	1125		
	4:00	160	"	1127	1122	1155	1142	1137	1155	1155	1165	1132	114	1145	1155	1142	1157		

DATE	TIME	MIN	AMIS	404	489	551	552	482	466	467	468	398	478	479	480	568	569	TEMP. Delay	
4/14/09	PM 3.00	180	40	1.09	1.077	1.14	.112	1.094	1.134	1.137	1.147	1.104	1.112	1.117	1.147	1.134	1.14		
	3.10	180	"	1.097	1.11	1.12		1.067		1.11		1.08		1.097		1.11		122	Temp.
	1.0	190	"	1.077	1.047	1.127	.111	1.074	1.12	1.122	1.137	1.084	1.094	1.087	1.104	1.12	1.127		
	.20	200	"	1.04	1.03	1.117	1.074	1.082	1.067	1.107	1.122	1.062	1.074	1.062	1.102	1.104	1.117		
	.28	208	"		1.00										1.00				138.7
	.29	209	"																139.3
	.30	210	"	1.04	.992	1.02	1.077	1.122	1.182	1.09	1.102	1.034	1.047	1.037	.977	1.087	1.10		
	.34	214	"	1.00															142.7
	.38	218	"					1.20											145.3
	1.0	220	"	.974	.904	1.085	1.047	.994	1.047	1.062	1.084	1.00	1.017	1.00	.974	1.047	1.08		146.7
	.20	220	"										1.00						150.7
	.30	230	"	.934	.902	1.062	1.004	.984	1.02	1.03	1.04	.964	.977	.96	.942	1.034	1.047		
	.31	231	"				1.00												154.
	.31½	231½	"								1.00								154.3
	.32	232	"						1.00										156.7
	.36	236	"							1.00						1.00			157.3
	.37	237	"																158.
	1.00	240	"	1.062	1.082	1.04	.977	1.094	.947	.934	1.00	.927	.877	.917	.934	.937	1.01		160.
	1.00	241	"	1.13	1.182	1.17		1.13		1.137		1.14		1.13		1.19	1.00	122	Temp.
	.04	244	"		.50														163.3
	.08	248	"			1.00	.50												163.7
	.08½	248½	"							.50			.50						167.
	11	251	"													.50			167.3
	.12	252	"	.50				.50											168.3
	.15	255	"						.737										
	.18	258	"		.765							.802		.79	.877		.685		172.
	.19	259	"				.50		.50								.50		172.7
	.20	260	"									.647		.642	.932				
	.24	264	"			✓	✓	✓				.50				✓			176.
	.24½	264½	"										.50						176.3
	.30	270	"									✓			.69				
															.50				185.3
	.38	278	"																

DATE	TIME	MIN	AMPS	404	488	551	552	487	466	467	468	398	479	479	480	568	569	ITEM	
				108	111	(98)	126	(136)	138		121	(138)		(118)					
6/14/09	Change																		
	1:45	0	30	1192	1202	1232	111	1227			1197	123		1297				83.7	Temp.
	5:45	60	"	1187	124	1167	1117	115			118	115		1187				84	
	6:45	120	"	116	1165	1147	1047	1117			1107	113		113				83.5	
	7:45	180	"	1087	1124	1092	100	105			1045	1067		1087				82.5	
	8:45	240	"	104	1102	1072	108	100			1025	1045		107				81.7	
	9:45	300	"	1022	108	1032	972	984			1012	902		1062				81.2	
	10:45	360	"	102	1072	103	98	100			1017	1002		1077				80.5	
	11:45	420	"	104	1057	105	97	1025			100.2	1022		1047				79.7	
	11:45	420	"	177.5	176.5	172.5	174	174	177.5	177.5	177	172.5	172	176	177.7	172	173	T.D.	
	Discharge																		
6/15/09	8:00	0	10	144	142.2	142.5	141	140	142	141.5	145	142	136	136	135	137	137		
	.04	1	"	133	133	132.5	132	132	133.5	132.5	133	135	133	133	133	132.2	132.2		
	.10	10	"	131	130.5	130	131	130	131.5	131	131	132.5	131	131	131	132.2	132		
	.20	20	"	127.5	127	127	127.5	127.5	129	128.5	128	129	128.5	128.2	128.2	128	128		
	.40	40	"	124.5	124	124.2	124	124	125.5	125.5	125.5	125.5	125	124.5	124.2	124.2	124.5		
	1.00	60	"	122	121	122.2	122	122	123	123	123.5	122.5	122.5	122	121.7	122.5	122		
	1.00	60	"	107	105.5	105.5		101		105.7		102.5		105.2		115		77.2	Temp.
	.20	80	"	120	119	120.5	120.2	120.2	121	121	122	120	120.5	120	119.7	121	121		
	.40	100	"	118.2	117.5	119.5	119	119.5	120	120.2	121	119	119.7	119	118	119.7	120		
	2.00	120	"	117	116	117	117.7	117	118.5	119	120	117	118	117.7	116.2	118.2	118.5		
	2.00	120	"	106.2	112.5	107.7		104.7		107		107.2		106.5		113.2		79.7	Temp
	.20	140	"	115	119.5	116	116.5	115	117	118	118.5	116	116.5	116	114	116.5	117		
	.40	160	"	113.5	117.7	114.5	114	113.7	116	116.2	117	114.2	114.5	114.2	112	115	115.5		

DATE	TIME	MIN	AMPS	404	488	551	552	492	466	467	468	398	478	479	480	568	569	TEMP Dole	
6/15/09	1:00	1:00	4.2	111	117	112	112.2	111	114.5	115.	115.7	112	113	113	109	113	114		
	2:00	1:00	"	105.7	112.5	112		110.7		112.2		110.2		109		110.5		105	Temp
	1:10	2:00	"	106.5	105	105.5	110	107	112	113.	112.7	109	105	109	112.2	110.5	111.7		
	1:20	2:10	"	107.7	107	109	115	109	110	111	112	106.2	107	106.5	112	109.	110		
	1:35	2:15	"			106									113				143.3
	1:37	2:17	"												112				145.
	1:40	2:20	"	100	97.5	107	106	101	107.7	109.	110.	103	104	103	93.5	106.5	110.2		146.7
	47	2:27	"					100											151.3
	1:50	2:30	"	95.5	92	102	107	97	108	106	107	110	101	105	96.2	102	105.		153.3
	52	2:32	"										102						154.
	1:54	2:34	"				110									100			156.3
	1:55	2:35	"																157.
	1:57	2:37	"			101													159.3
	4:00	2:40	"	91.5	86	95	98	93.7	100.5	103	101	91.2	92.2	92.2	94.5	86	101		160.
	4:00	2:40	"	112	110.2	110.2		110		114		114		113		121	100	81	Temp
	02	2:42	"						100										161.3
	1:03	2:45	"							103						50			163.7
	07	2:47	"								59								164.7
	09	2:49	"		50		50												166.
	10	2:50	"	82		50		87	93.5	91.5		92	85	92	92		70.5		166.7
	13	2:53	"														60		168.7
	1:14	2:54	"										50						170.3
	1:17	2:57	"	50						50									171.7
	19	2:59	"					50											172.7
	1:20	3:00	"						75			83			87				
	24	3:04	"						50										176.
	1:31	3:11	"									50		53	75				180.
														50					180.7
	1:40	3:20	"												57.7				
	1:42	3:22	"												50				188.
	1:42	3:22	"	120.	126.5	124.2		117.5		126.7		120		119.2		127		115	Temp
												✓							

DATE	TIME	MIN	AMPS	464	484	551	552	482	466	467	468	478	479	480	568	569	TEMP Volts	
6/15/09	Charge			129	112	(119)		127	(127)	125		122	(129)		(119)			
	4.55	0	30	121.7	126	120		115		122.5		119	122.5		127		115	Temp
	5.55	60	"	121	123	119.2		110		117		115	115		115.5		82	"
	6.55	120	"	114.5	117	113.5		103		113		109.5	111.5		113		82	"
	7.55	180	"	110.5	115	109.5		101.2		109.5		107	109		112		217	"
	8.55	240	"	107	115	105		99.2		105.5		105	104.5		109.5		81	"
	9.55	300	"	105	105	103.5		99		103		102.5	103		103		80	"
	10.55	360	"	103	107	105		99		101.2		102	101.5		102.5		202	"
	11.55	420	"	103	107	105		99		102		102.5	102		103			"
	11.55	420	"	121	123	120	119	121	121.5	122		115	117.5	117.5	117.5	119		C. D
						Discharge												
6/15/09	PM																	
	12.00	0	40	143.5	143.5	143.5	143.5	143	143.5	143.5	143	140	142	140	139	139	139	
	06	6	"	133	133	133	133.5	133	133.5	133.5		134	133	133	133	132.5	132	
	10	10	"	132	132	131.5	131	131	132	132	131.5	133	132	132	132	131.5	131	
	20	20	"	129.5	129	129	129	129	129.5	129.5	129	129.5	129.5	129	129	129	129	
	40	40	"	124.5	124	124.5	124.5	124	124.5	124.5	124.5	125	124.5	124.5	125	124.5	124.5	
	1.00	60	"	121	121	121.5	121.5	121	121.5	121.5	121.5	122	121	121.5	121.5	121.5	121.5	
	1.00	60	"	124	124.5	109		103		106.5		106.5	106.5		111		209	Temp
	20	80	"	117	118.5	115.5	115.5	120.5	121	121.5	122	120	120.5	120	119.5	120.5	120.5	
	40	100	"	114	117.5	117.5	119	119.5	120	120	120.5	118.5	119.5	118.5	117.5	119	119.5	
	200	120	"	117	118.5	117.5	117	117.5	118.5	119	119.5	117	117.5	117	116.5	117	117.5	
	200	120	"	109	113.5	112		106.5		108.5		108	108.5		112.5		81	Temp
	20	140	"	115	116.5	116	116	116	117.5	117.5	118.5	116	116	116	114.5	116	116.5	
	40	160	"	113.5	115.5	115.5	114	113.5	116	116.5	117.5	114	115.5	114	114.5	115.5	115.5	

DATE	TIME	MIN	AMPS	404	485	551	552	482	466	467	468	398	478	479	480	568	569	TEMP Rec	
6/15/07	2:17																		
	3:00	180	40	110	1082	1122	1117	1102	1142	1146	1152	1112	1115	1115	1107	1112	1113		
	3:00	180	"	117	116	116		109		1122		1114		1121		1112		82	Temp.
	20	200	"	1062	1047	1110	1075	1062	1117	1122	1125	1077	1077	1071	1103	1092	1102		
	30	210	"	1037	1065	1108	1074	1027	1097	1105	1117	1052	1052	1052	1007	1075	1086		141
	32½	211.5			100										100				141.3
	35	212	"																
	40	220	"	100	97	1047	1065	1027	1077	109	110	1027	1027	1022	985	1042	1067		146.7
	47½	221½	"					100											149.7
	47	223	"											100					151.3
	47½	223½	"									100			100				151.7
	48	224	"										100						152.
	48½	224½	"			100													153.
	50	230	"	984	974	98	100	974	104	106	1082	987	97	982	962	985	102		153.3
	54	234															100		156.
	57½	237½	"								100					50			158.3
	60	240	"	90	747	62	665	934	100	1045	842	947	94	985	942		74		160
	60	240	"	1062	1242	1247		113		119		117		1125		1277		83	Temp
	62	242	"			50				100									161.3
	64½	244½	"				50				50								163.
	65½	245½	"		50											✓	50		163.7
	70	250	"	72		✓		847	905	81		90	717	902	907				166.7
	73½	253½	"	50			✓										✓		169.
	75½	255½	"							50			50						169.3
	76½	256½	"					50			✓								171.
	80	260	"						50			72		715	922				173.3
	86	266	"									50							177.3
	87½	267½	"											50					178.3
	90	270	"						✓	✓					685				
	97	277	"									✓			50				184.7

DATE	TIME	PIN	404	488	465	462	482	466	467	468	398	478	479	480	468	467	TEMP. IPLE
6/15/09	Pr. Charge		160	113	(50)		128	(38)		140	223	176		(50)			
	4:55	0	120	202	279	217	119		120		1245	247		126			BL TEMP
	5:55	60	1245	120	202		114		1174		120	120		214			137
	6:55	120	1165	212	116		110		113		115	1147		117			135
	7:55	180	113	118	113		107		110		1112	1112		115			13
	8:55	240	102	115	107		105		108		1085	1085		113			13
	9:55	300	108	122	109		1032		106		1062	1062		110			12
	10:55	360	1065	1107	108		102		1045		1045	1045		110			11
	11:55	420	136	109.5	107		101.5		1047		104	104		109			104
	11:55	420	177.5	175	172.5	174	172.5	172	172.5	172.5	1777	171	175	173	171.5	172.2	P.D.
6/16/09	pm. Discharge																
	12:00	0	147	147	142.2	141	141	143	142	142	142.5	139.5	139.5	142.5	137	137.5	
	.04	4	133	132.2	132	131.5	131.7	132	133	132.5	134.5	133	132.5	133	132	132	
	.10	10	131	130.5	130	130	131.2	131.5	131	131	132.5	131.5	131	131.5	131.2	130.2	
	.20	20	127	127	127.7	127.5	127.7	129	127.5	128.2	130	128.5	128.2	128.2	128	128	
	.40	40	127.5	127	127.2	127	127.2	127.7	127	127.7	127.7	127	127	127.5	127	127	
	1.00	60	122	121	122	122	122	123	123	123.7	122.5	122.2	122	121.7	122.2	123	
	1.00	60	119.5	115	112		103.5		107		106.5		107		111.7		80 Temp
	.20	80	119.7	119	120	120	120.2	121	121	122	120.7	120.7	120	119.7	120.2	121	
	.40	100	118.2	117.5	119	119	119.5	121	121	121	119	119.7	119	118	119	119.7	
	2.00	120	117	116	117.7	117.5	118	119	119	120	117.7	118	117.7	116.2	118	118.2	
	2.00	120	107.5	113.5	112.2		104.7		108.5		107.5		108.7		114.7		79.7 Temp
	.20	140	115.5	117	116	115.7	116	117.7	117.7	118.2	116	116.2	116	117	116	116.5	
	.40	160	113.5	117	117	117.7	113	116	116	117	114.2	116.2	116.2	117	116	116.5	

DATE	TIME	M111	M112	404	488	551	552	462	466	467	468	398	478	479	410	526	589	182	
4/2/01	2:00	100	40	112.2	109	112	111.5	110	114.2	114.7	105.5	112	111.7	112	107.5	112	113		
	3:00	100	"	116.2	113.7	112.5		105.2		109		109.5		110		116.2		79.5	Temp
	.26	210	"	106.5	108.2	109.7	106.2	110	112	111.7	112	108	107.2	107	103	109	110.5		
	.30	210	"	104	106.7	107.7	106.5	104	110.2	110	112	106	105	106	101	106.7	109		
	.35	210	"		100										100				145.7
	.40	210	"	100	97	104	103	100.5	104	108	110	113	102	113	97.5	112	116		146.7
	.45	210	"					110								100			149.7
	.50	210	"				100												151.7
	.55	210	"			100													152.
	4:00	210	"	76	92	97.7	95.5	97.5	105	105	102	100	100	100					152.7
	.05	210	"									99.7	99	99.7	96.2	92.2	111.7		
	.10	210	"													50	100		156.
	.15	210	"			50													158.
	.20	210	"								100								158.3
	4:00	210	"	89	75.7		50	92	100	100	88	95	93	95	92.5		74.2		160.
	4:05	210	"	110	117	122.5		117.5		112		111		112		112.5	50	78.7	Temp
	.35	210	"				✓												162.3
	.40	210	"			✓					50								164.3
	.45	210	"		50											✓	✓		165.
	.50	210	"	72				83	92	73.5	✓	89.5	74.2	69.7	89.5				
	.55	210	"							50			50						167.3
	5:00	210	"																169.3
	.05	210	"	50															171.
	.10	210	"					50		✓									172.7
	.15	210	"						67.7			75.5	79	83					
	.20	210	"						50										176
	.25	210	"									50							179.3
	.30	210	"					✓						50.5	70.2				
	.35	210	"										50						180.3
	1:00	210	"												50				185.7
	.05	210	"	114.2	122	122		112		119.2		114.7		117		122		78	Temp

DATE	Time																					
				160	164	(E)	167	(1032)	141		324	(141)	(E)									
4/16/09	Exchange																					
	4:00	0	30	1212	1255	1182	1132	1255			1117	1172	1205	78	temp.							
	5:00	60	"	1147	1202	1172	126	1207			1117	1122	115	77.5	"							
	6:00	120	"	1082	114	107	99	103			1117	1052	1025	77.2	"							
	7:00	180	"	1092	118	1165	97	101			1025	103	1027	77	"							
	8:00	240	"	1017	1065	1022	95	99			1000	100	105	77	"							
	9:00	300	"	1005	105	101	942	98			955	99	104	77	"							
	10:00	360	"	100	1042	101	942	96			98	925	1025	776	"							
	11:00	420	"	100	1042	1015	95	987			985	99	104	777	"							
	12:00	480	"	108	176	1155	115	179	179	177	172	171	1152	170	1722	173	TD.					
	PM			Discharge																		
4/16/09	12:00	0	40	147	170	1932	1965	138	140	1347	140	140	138	1377	135	1367	138					
	04	4	"	133	1323	1321	1312	132	1332	1332	135	135	1332	133	133	133	1322					
	10	10	"	130	130	130	1292	1292	1305	1302	132	1302	1305	130	133	130						
	20	20	"	1277	1275	1272	127	1262	1262	121	1295	1295	129	133	1275	1275						
	40	40	"	124	1232	1242	1232	1242	125	125	125	1242	1242	124	1242	1242						
	1:00	60	"	1212	1202	121	122	192	1227	1232	122	122	1212	1212	1212	1222						
	1:00	60	"	1092	106	1092	99		1025		102		1025		103		78.2	TEMP				
	20	80	"	1192	1165	1205	1062	1202	1201	1205	122	126	1205	1152	1165	1205	1201					
	40	100	"	118	1167	119	1187	119	1192	1192	1207	1182	119	1182	1185	119	1195					
	2:00	120	"	1165	1152	1172	1172	1172	1182	1182	1192	1167	1172	1152	1172	1172	1172					
	2:00	120	"	1092	1092	109	1027		1052			1052		111			79.2	Temp				
	20	140	"	1147	1132	116	1107	1122	1122	1122		1142	116	1152	1127	1107	1122					
	40	160	"	1127	111	1142	1127	1132	116	116	1167	127	114	1127	1127	114	1145					

DATE	TIME	MIN	AMT	104	488	487	482	482	466	467	468	398	478	477	480	468	467	TEMP. IDLE
6/16/09	PM. 3:00	1/80	.40	.110	.108	.112	.1145	.110	.1142	.114	.1152	.1112	.1107	.1112	.1057	.1157	.1132	
	3:00	1/80	"	.108	.113	.1127		.111		.1087		.109		.109		.1145		80.2 Temp.
	.20	2.00	"	.1052	.1027	.1092	.108	.1054	.1112	.1112		.1027	.1067	.1062	.1012 (1.00)	.108	.1095	-138
	.27	2.07	"															
	28½	2.08½	"		.100													-137
	.30	2.10	"	.102	.9945	.1075	.1062	.1027	.1132	.1025	.1112	.104	.1032	.104	.992	.1057	.1057	
	30½	2.10½	"	1.00														-143.7
	.37	2.17	"					.100										-146
	.40	2.20	"	.98	.942	.1041	.1027	.997	.1045	.107	.1072	.1005 (1.00)	.100	.100	.967	.1012 (1.00)	.1045	-144.7
	43	2.23	"															-144.7
	.45	2.25	"			.100	.100											-145.0
	.48	2.28	"															-145.0
	.50	2.30	"	.93	.89	.887	.91	.945	.1027	.103	.1047	.967	.947	.962	.945	.977 (.50)	.100	-142.3
	53½	2.33½	"															-144.7
	.55	2.35	"							.100	.100							-145.7
	57½	2.37½	"															-145.7
	.58	2.38	"			.50			.100									-145.7
	58½	2.38½	"				.50											-145.7
	1.00	2.40	"	.962	.6.7			.912	.98	.962	.932	.922	.877	.92	.945		.50	
	1.00	2.40	"	.1122	.1182	.1227	✓	.110		.1132	.50	.1132		.1135		.1245 ✓	.81	71 Temp.
	.02½	2.42½	"															-164.7
	.04	2.44	"		.50 ✓										✓			-162.7
	1.0	3.50	"	.945				.762	.875	.950	✓	.882	.932	.882	.895			
	1.1½	3.51½	"	.50														-166.7
	1.13½	3.53½	"															-167.7
	1.15	3.55	"					.50	.50									-168.7
	2.0	4.00	"							✓								-172.3
	2.3½	4.03½	"						✓			.67		.647	.777			
	.24	4.04	"									.50		.50				-175.7
	.30	4.10	"															-176
	33½	4.13½	"												.45 (.50)			-176.7
																		-186.7

DATE	TIME	MIN	AMB	404	488	447	482	466	467	468	398	478	479	480	468	469	TEMP IDLE
6/16/09	Discharge			162	155	(42)	130	[40]	142		225	[42]		(42)			
	P.M.																
	7:00	0	30	117	124	122	113	118			117	122		122			81 Temp.
	5:00	60	"	117	122	116		122			114	117		117			80 "
	6:00	120	"	115	116	110	103	106			102	107		112			80 "
	7:00	180	"	109	122	102	100	103			104	105		109			79 "
	8:00	240	"	109	102	105	98.7	102			102	103		102			79 "
	9:00	300	"	103	107	107	98	101			102			102			79 "
	10:00	360	"	102	106	103	97.5	101			101	101		105.7			78 "
	11:00	420	"	102	105	103	97.5	101.5			101	101		105.7			78 "
	11:00	420	"	115	117	115	115	115.7	117.5	115	117	112	116	114	112	119	T.D.
6/17/09	A.M.	Discharge															
	2:00	0	40	144	143	142.5	141.5	141	143	142	142	139	139	138.5	137.5	137.5	
	10:00	1	"	133	132.5	132.5	131.7	131.5	133	133	133.5	133	132	133	132.5	132.5	
	10:10	10	"	131	130.5	130.5	131	131.5	131	131	132.5	131	131	131	131.5	131.5	
	10:20	20	"	127	127	127	127.5	127	129	127.5	130	129	128.5	128.5	128	128	
	10:40	40	"	127.5	127	127.5	127	127.5	128.5	129	129.5	128	127.5	127.5	128	128	
	11:00	60	"	122.5	121	122	122	122	123	123	122.5	122.5	122	122	122.5	122.5	
	11:00	60	"	117	117	116		117.5		117	117.5		117		117.5		77.2 Temp
	11:20	80	"	117.5	117.5	120.5	120	121.5	121	121	122	120.5	120	119.5	121	121	
	11:40	100	"	116.5	117	119	119	119.5	120	120.5	121	119	119	118	119.5	120	
	12:00	120	"	117	116	117.5	117.5	118	119	119	120	117	118	118.5	118	118.5	
	12:00	120	"	109.5	109.5	110		109.5		109.5		105		106	111		77 Temp
	12:25	145	"	115.5	114	115	116	116	117	116	116	111	112	116	113.5	116	117
	12:40	160	"	113	115.5	114	113.5	113.5	115.5	116	116	114.5	114.5	114.5	111	114.5	115.5

DATE	TIME				438	422	551	572	482	446	467	476		598	457	479	400	505	569	102	
6/3/59	AM 3.00	150	40	"	110.5	109	112	111.5	113.5	109.5	114.5	115.5		112	112	112	107	112	113		
																				72.2	Temp
	3.05	150	"		105	111	110		102.2		106			105.7		105		113			
	10	190	"			107											105				
	.25	200	"		106	108	109	106.2	111	112	112	113		108	107.2	108	107.2	108.5	110		
	.30	210	"		105.7	101	107.7	106.5	108	110.2	110.2	112		106	105.7	108	107.2	107	109		
																	100				
	.35	215	"			100															-140.7
	.40	220	"		100	97	105	108	110.5	108	105.2	110		103	106.2	103	97.2	108	107		-143.3
									100.0												-146.7
	.45	225	"																		-150
	.47	225 1/2	"				100											100			-152.3
	.50	230	"					100							100						-152.7
	.55	235	"		96	92.2	98	97	98	105	105.7	103.5		100	99	100	96	98	113		-153.3
	.57	235 1/2	"															100	100		
	.58	236	"															50			-155.7
	4.00	240	"		90.2	84.2	97	95.7	93.7	101.5	101	100		96	97	95.7	94		130.5		-160
	4.00	240	"		104	104	112		104.7	100	100.2			104		100.2		120.5		75.5	Temp
	.02	242	"				50				100.										-162.5
	.05	245	"																		-165.3
	.07	247 1/2	"									50									-165.7
	.10	250	"					50													-166
	.15	255	"		70	50			85.7	93	83			90	80	90	89.7				-170.7
	.15	255 1/2	"								50										
	.17	257	"												50						-171
	.20	260	"						50	77											-171.3
	.22	262 1/2	"							50				61		62	84				-172.3
	.25	265	"											50		50	69				-176.3
	.27	267 1/2	"														50				-180
	.30	270	"																		-186.3
	.32	272 1/2	"		113.2	120.2	120		111		115			112.5		113.7		121			Temp

DATE	TIME	MIN	AMB	44	45	50	52	48	46	47	48	49	47	49	45	50	50	125	
6/17/09	Charge			163	161	(50)		131	(44)	143	126	(43)			(50)				
	4:25	0	30	114	120.5	115		119.5		115.2	112.5		114		119.5		75.2		Temp
	5:25	60	"	113.5	115.5	112		112.5		107.5	112		112		114.2		74.7		
	6:25	120	"	110	112.5	106		110		103.5	109.7		105		105.2		72.5		
	7:25	180	"	100.5	105.5	102		96.5		99	100		100.5		100		72.7		
	8:25	240	"	99	104	97		92		95.5	92		96.5		101.5		72.5		
	9:25	300	"	97	101	96.5		91		94	90.5		95		100		73		
	10:25	360	"	96	100	96		90.5		92	94		90.5		95.5		74.5		
	11:25	420	"	97.5	101	98.7		92.5			95.5		95.5		99.7		75.5		"
	12:25	480	"	180	182	175	176.7	176	181	179.2	178.7	173	177.5	175	173	175			P.D.
				Discharge															
	04																		
6/17/09	12:00	0	40	194.7	193.5	193	193	192.2	194.7	194	194.7	193	192	190	190.7	190			
	04	4	"	193	193	193.7	132	132	193.7	193	193.7	193.2	193	193	193.2	193.7			
	10	10	"	130.5	130.5	130.2	129.7	129.7	131	131	131	131	130.5	130	131	131			
	20	20	"	126	125.5	126	127.2	127	129	129.5	129.2	129.2	128	128	128	128			
	40	40	"	124	125.5	124.5	127	127	125	124.7	124	124.7	124	124	124	124.2			
	1:00	60	"	121.5	120.7	122	122	121.7	122.5	122.2	122.2	122	121.7	121.5	121	122	122.2		
	1:00	60	"	100.7	104	102		96		99.2		99		100		100.5		77	Temp.
	120	120	"	118.5	118.5	120.5	120.5	120	120.7	120.7	121.7	120	120	118.5	118.7	120.5	120.5		
	140	100	"	118	117	115.2	119	119	119.7	119.5	118.7	118.2	119	118.5	117.5	119.5	119.5		
	200	120	"	116.5	115.2	117.7	117.5	117.7	118.2	118.5	118.7	117	117.7	117.2	115.2	117.5	118		
	200	120	"	107.2	106.5	106		98.7		102		102		100		100.5		77.7	
	23	143	"	118.5	117.2	115.7	116.5	116.5	117.7	117	117.2	115.2	115.7	115.2	115.5	115.7	116		
	40	160	"	116.5	115	115.2	114	113.7	114	116	117	114	114.2	114	116	113.7	116		

DATE	TIME	MIN	AMT	704	705	706	707	708	709	710	698	699	700	701	702	703	TEMP	TITLE
	TIME.																	
6/19/09	3:00	1/10	1/0	110	108	112	117	110	114	113	115	1113	1112	1112	106	1117	1125	
	3:00	1/10	"	104	1055	102	/	101		104		104		105		1102		300 Temp.
	10	190	"	103	104	111	1162	118	1127	113	1114	110	1115	1099	1100	1165	1118	
	22	202	"	106	105	1097	102	1012	110	111	112	1015	102	107	101 / 100	1012	110	
	26	206	"															137.3
	255	2655	"		100													139.
	31	210	"	103	102	1052	1060	103	1033	1053	1013	1097	1093	1095	095	1062	106	140.
	34	214	"	100														140.3
	39	219	"					100										146.
	41	221	"	98	97	1045	103	777	1062	107	109	101	100	1002	97	103	1087	147.3
	42	222	"											100				148.3
	44	224	"									100						149.7
	46	226	"													100		151.
	47	227	"				100											151.3
	49	229	"			102												152.7
	50	230	"	94	91	95	92	96	103	104	103	98	97	97	96	95	1022 / 100	153.3
	53	233	"															155.3
	57	237	"						100									158.
	58	238	"							100								158.7
	555	2555	"								100							159.
	400	240	"	89	81	70	76.7	92	99.5	97	92	94	92	94	93	89		160
	4:00	240	"	107	1077	106 / 100		105		108		108		110		1212	79	Temp.
	02	242	"				50											161.3
	03	243	"															162.
	05	245	"													50		163.3
	06	246	"															164
	07	247	"		50						50							165.
	10	250	"	71				82	90	73 / 50		89	72	89	90			169.3
	14	254	"	50														169.7
	15	255	"										50					170
	17	257	"					50										171.
	20	260	"						60	50		75		75	812			174
	21	261	"															
	22	262	"									56						177.3
	27	267	"											50				178
	30	270	"												637			
	35	275	"												56			183.3

DATE	TIME	MIN.	AMB	404	488	1052	482	466	467	468	398	478	477	480	568	569	TEMP. IDLE	
6/27/09	Change		#164	117	(144)	#132	(142)	#144	#(207)	(144)	(144)							
	7PM	0	30	114	119	119	108	112		113	147	120		79	Temp	
	7:15	60	"	114	119	112	107	107		112	112	114		77.7	"	
	6:45	120	"	102	114	102	102	105.2		107	107.7	111.2		80	"	
	7:45	180	"	107	111.7	107	99.7	103		104	100	109.2		80.7	"	
	8:45	240	"	104	108	105	97.5	100		101	102	107		80	"	
	9:45	300	"	102	107	102	96.7	100		100.2	101	106.2		80	"	
	10:45	360	"	104	105.2	102.5	97	99		99	100	105.2		80	"	
	11:45	420	"	101	107.2	112	95.5	99		97.7	99.5	104		79	"	
	11:45	420	"	117.7	117.7	114	122.7	122.7	122.2	119	122.5	122.7	124	122.7	124	TED.		
6/28/09	Discharge																	
	12:00 PM	0	40	144	149	142	141.7	141	142.5	142	142	139.7	139.7	137.2	137.7	137.7		
	.04	4	"	132.2	132	132	131.5	131.5	133	132.5	132.5	132.2	132	132				
	.10	10	"	130.5	130.2	130	131	131	131	131	132	131	130.7	131	130.5	130.5		
	.20	20	"	127	127.7	127.7	127	127	127.5	127	127.5	127	127	127	127	127		
	.40	40	"	124	125	124.2	124	124	125	125	125	125.5	124.5	124	124.5	124.5		
	1.00	60	"	121.7	121	122	122	122	122	122.5	122.5	121	121.7	121.7	122.2	122.5		
	1.00	60	"	114	117.7	116		100		102		102.5	102.7	104			79	Temp
	.20	80	"	120	119	120.5	121.5	120.5	121	121	122	120.2	120.5	120.2	119.7	121	121	
	.40	100	"	118.5	117.7	119.7	119.5	119.2	120	120	121	119	119.7	119	118	119.7	120	
	2.00	120	"	117.5	116.2	118	118	118.2	119	119	120	118	118.5	118	118.2	118	118.5	
	2.00	120	"	105	119	109		102		105.5		104.7		106		111.2	79	Temp
	.20	140	"	115	114.5	115.2	116	116.5	115	115	119	114.2	117	116.5	114.2	116.2	117	
	.40	160	"	114	122.2	114.5	114	114.2	116.2	116.2	117.2	115	115.5	114.5	111	114.5	115.5	

DATE	TIME	MIN	MAX	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	568	569	1000	
3/12/09	AM 2:00	100	40	111	109	112	112	111	114.5	114.5	115.7	112.2	112	112	112.7	112	113							
	3:00	100	"	107	112	112		109.5		112.2		107.5		105.7		111.2		76.7		Temp
	:10	200	"	107.7	112.7	111	109	108	112.2	112.5	112.7	109.7	109	109	109.7	109.7	111			
	:30	210	"	105	112.2	112.2	109.7	109.7	110.5	111	112.2	107.5	105.5	107	107.5	107.7	109.5			
	:35	215	"												100					- 143.3
	:50	210	"			100														143.3
	:57	210	"	101	99.5	105.7	105	102.2	108	108.5	110.7	104	102.2	102.7	99	102.5	107			- 157.3
	:47	227	"	100																
	:49	225	"					100							100					- 157.3
	1:10	230	"	96.5	93.7	100	100	99	105.5	105	107.7	101	100	100	99.2	99.5	102.7			- 157.3
	:49	237	"									100								- 156
	:51	237	"														100			- 158
	:53	235	"													20				- 157.3
	2:10	245	"	92	87	77	83	95.7	102	102.2	102	95.5	92.2	97	99.2		91			
	4:00	245	"	110	115.5	117		104		112.7		110.7		112		115.7		76.5		Temp
	:03	245	"							100										- 162.3
	:01	245	"			50			100	100										- 162.7
	:05	245	"				50									✓				- 164.
	:07	247	"														50			- 164.7
	:05	247	"							50										- 165.7
	:15	250	"	82	55	✓	✓	90	96	91.7		93	88	92.5	91.5		✓			- 167.3
	:11	251	"		50															
	:12	252	"	50						50			50							- 172.3
	:14	257	"																	172.7
	:22	260	"					61	82.7			84.5		85.2						- 174.3
	:21	261	"					50			✓									
	:26	262	"						50											- 177.7
	:31	267	"									54.2		59	72					
	:31	267	"									50								- 180.7
	:30	270	"											50						- 181.7
	:40	270	"												50					- 186.7
	:40	270	"	117	122.5	122.5		114.5		116.5		116.5		119		124.5		76.5		Temp
									✓											

DATE	TIME	MIN																						
6/10/09				125	114	(55)	133	(143)	145			228		(174)			(55)							
	4:45	0	20	117	124	122		133.5	139.5			118		120		123							74	
	5:45	60	"	112	124	124		138	142			114		127		116							77.5	
	6:45	120	"	103	115	109		132.5	136.5			108		108		111							77	
	7:45	180	"	105	111	105		90	132			103.7		104		107.7							76	
	8:45	240	"	101	101	101.5		95.5	99			100		99.5		101							75	
	9:45	300	"	99	104	99.5		94	97			97		97		101.7							74	
	10:45	360	"	97	101	98		92	95			95		95		100							73.7	
	11:45	420	"	97	100.5	97		91.7	95			94.5		94		99							73.2	
	11:55	420	"	177	175.7	174.5	173.2	174	177	176	177	183	177.7	175	173.2	173	174							
4/8/09			Discharge"																					
	9:39 12:00	0	40	194	192.7	193	191	188	190	190	190	191	192.5	188	193.7	187	187							
	39	4	"	133	133	133	132.5	132.5	133.7	133.7	133.7	135	133	133	133	133.7	133							
	10	10	"	130.5	130.5	130	130	130	130.7	130.7	130.5	132	130.7	130.5	130.5	130.5	130							
	29	29	"	127.5	127.5	127.5	127	127	127.5	127.5	127.5	129	127.5	127.5	127.5	127.5	127.5							
	40	40	"	124.5	124	124.5	124	124.5	124.5	124.5	125	125	124.5	124.5	124	124	124.5							
	1:00	60	"	121	120.5	122	122	122	122.5	122.5	122.5	122.5	122	121.5	121	122	122.5							
	1:00	80	"	100	104	101		96	96.7			98		103		104		73.7	Temp.					
	1:30	80	"	117.5	118	120	120	120	120.5	121.5	121.7	117.5	120	118.5	118.5	120.5	120.5							
	40	100	"	117.5	116.5	118.5	118.7	118.7	119.2	118.5	120.5	117	118.5	118	116.5	118.5	119							
	3:00	120	"	116	115.5	116.7	116.7	117.2	118	118.5	118.5	116.5	117.5	116.7	116.7	116.7	117.5							
	3:00	120	"	102.5	107	105		99.5	100.5			101		101.7		107		73.7	Temp					
	20	140	"	114.7	113.5	116	116.7	115.5	117.5	117	118.7	116.5	116	115.5	111.5	115.5	116.5							
	40	160	"	112	110	114	115.7	112	116.5	116	117.5	113.5	113.5	112.5	107	113	114							

DATE	TIME	MIN	MITE	404	483	481	482	482	466	467	468	378	478	479	480	468	467	TEMP IDLE
6/18/09	P.M. 3.00	/10	1/0	1022	104	111	1101	102	113	113	115	107	102	109	1022	/10	1115	
	3.00	/10	"	1057	1022	105		1025		105		105		105	100	1025		Leak 128.3
	.12½	172½	"		100													131.7
	.17½	177½	"															
	20	200	"	1027 100	997	108	1072	103	1052	110	112	104	1032	103	99	106	108	137.
	.25½	205½	"										100					138.
	.27	207	"					100										138.2
	.37½	207½	"											100				139.
	.28½	208½	"									1002						139.7
	.29½	209½	"	99	92	105	104	992	107	108	113	999	997	997	92	103 100	105	
	.30	210	"															144.7
	.37	217	"				100											146.
	.39	217	"															
	.40	220	"	942	92	100	997	90	1037	105	108	97	96	997	94	96	1022 100	146.7
	44½	224½	"															149.7
	48	228	"						100									152.
	50	220	"	90	86	24 50	80	82	997	101 100	101 100	937	92	92	93	50	937	153.3
	54	224	"															156.
	55	225½	"				50											157.
	55½	225½	"														50	157.7
	58½	228½	"															159.
	400	240	"	997	50		✓	86	92	89	50	88	82	87	86			160.
	400	240	"	114	120	/20		/108		/10		/10		/10		/21	747	Leak 164.7
	.02	242	"										50					
	.02½	242½	"	50						50								164.3
	.07	247	"													✓	✓	164.7
	.08½	248	"			✓		50										165.3
	12	252	"						60 50			81		68	76			
	.12½	252½	"															168.3
	16	256	"											50				170.7
	.16½	256½	"									50						171.
	20	260	"												61			
	24	264	"												50			176.

DATE	TIME	MIN	AMTS	404	481	482	482	466	467	468	398	478	477	480	468	469	TEMP IDLE	
6/18/09	Charge			166	119	(46)	134	(144)		146	229	(146)		(56)				
	4:45	0	30	122	117	124	107		117		107	100		114		74	Temp.	
	5:45	60	"	113	112	111	107		107		110	107		111		75	"	
	6:45	120	"	108	114	108	102		102		104	106		108		76	"	
	7:45	180	"	102	110	104	99		102		102	103		106		76	"	
	8:45	240	"	102	107	102	97		99		100	100		104		75	"	
	9:45	300	"	100	102	100	94		95		98	98		103		75	"	
	10:45	360	"	98.2	102	99	93		96		97	97		101		74	"	
	11:45	420	"	97	101.5	98.5	92.5		96		96.5	96.5		101		73	"	
	12:45	420	"	100	102.2	100	100.5	101	104	104	104	103.7	102.2	102.2	102	102	TOD.	
6/19/09	AM.	Discharge																
	12:00	0	4/0	144	145	142.5	141	140.2	143	142	142	142.5	139	139	138	137.7	137.7	
	:04	4	"	133	132.5	132.2	132	132	133.5	133	133	135	133	133	133	132.5	132.2	
	:10	10	"	130.5	130.2	130.2	129.7	129.7	131	131	130.5	132	130.5	130.5	130.5	130.5	130.2	
	:20	20	"	128	127.7	128	127	127	128.2	128	128	129	128	128	128	128	128	
	:40	40	"	124	124	124.5	124	124	125	125	124	125	124.2	124	124.5	124.5	124.5	
	1:00	60	"	121.7	121	122.2	122	122	122.5	122.5	122	122	122	122.5	122.5	122.5	122.5	
	1:00	60	"	120	120.5	120.5		95		95	94		95.5		100.5	97	Temp.	
	:20	80	"	120	119	121	120.2	120.2	121	121	120	120.2	120	119	121	121		
	:40	100	"	118	117	119	119	119.5	119.5	120	120.5	119	118.2	117	119.7	120		
	2:00	120	"	117	115.7	117	117.7	117	118.5	119	120	117	118	117.7	118	118.2		
	2:00	120	"	100	104.5	103		95.7		96.7		96.2		99	105		72	Temp.
	:20	140	"	115.5	114	116	116	115.5	117.5	117.7	118.2	115.7	116	116	117	116	117	
	:40	160	"	113	111	114	113.7	113.2	115.7	116	117	113.7	114	114	115.7	114	115	

DATE	TIME																								
6/9/33	3:00	110	40	110.2	108	112	110.7	109	114	111.2	115		111	111	111	105.5	112	113							
	3:01	125	"	101	105.5	104.5		97		100			100		100		105.7		70.5	Temp					
	.10	198	"		100.2											103									
	.15	203	"	102.2	103	103	102.5	104	111	111.7	113		107	102.2	107	100.5	102.2	103							
	.25	205	"													100									
	.29	209	"		100																				
	.30	210	"	103		97	107	102.5	111	109	113	111	102.2	103	104	96.5	102	102							
	.34	214	"						100																
	.39	219	"		100																				
	.40	220	"	95.5	94.5	102	103.7	97	102	102.5	104		102.2	102	100	94	102.2	102.5							
	.45	225	"										100												
	.47	227	"														100								
	.49	229	"			100																			
	.50	230	"	91.5	91.5	99	100	95.5	103	105	102.2		97	96	97	94	95	102.5							
	.54	234	"						100									100							
	.57	237	"														50								
	.59	239	"								100														
4:00	240	"	88.7	86	85	95.7	89	96.2	100	95			94	95.5	93	91.5		79							
4:00	240	"	102.5	100.2	109		103		102				102.5		102.5		100.5		71	Temp					
.02	242	"			50																				
.06	246	"				50					50							50							
.07	247	"																							
.11	251	"	75	50			87.5	90.2	86.2				87	75	87	86.5									
.15	255	"			✓	✓				50				50				✓							
.17	257	"	50														✓								
.19	259	"					50																		
.24	264	"						67					74	✓	75	75									
.27	267	"						50																	
.29	269	"											50												
.30	270	"													50	66									
.31	271	"														50									
.37	277	"	108	112.7	112		102.7		107.7				106		105.7		105		70.5	Temp					
				✓	✓										✓	✓									

DATE	TIME	MIN	AMPS	V 1	460	551	552	458	456	457	468	358	476	479	470	558	559	1260	
6/13/11	7:00	Charge		117	120	(57)		135		(145)	147	230		(147)		(57)			
	7:15	15	25	112.2	117	111		123.5		129		129.5		112		113.5		70	Temp
	7:30	30	"	107	112	105		100		102		104		104		106.5		69	"
	7:45	45	"	102	107	100		95		97		99		99		102		65	"
	7:60	1:00	"	95.5	100.5	93		96		94		97.7		95.5		100		64	"
	8:15	1:15	"	95	100	94.7		94		95		91		93		97		68	"
	9:00	2:00	"	94	98	94		89		91		92		92		96.5		65	"
	10:00	3:00	"	94	97.7	94.2		89		92		92		92.5		96.7		70	"
	11:00	4:00	"	94.7	98.2	95.2		90		93.5		93.5		92.5		97.5		72	"
	11:30	4:30	"	1.81	1.80	1.76	1.77	1.77	1.82	1.80	1.77	1.80	1.79	1.79	1.77	1.79	1.79	1.75	C. D.

Stood idle 36 hrs over Sat-urday + Sunday charged.

Discharge

6/21	12:00	0	40	129	127	127	120.5	127	121	127	128	129	127.5	127	127	127.5	127.5	75.7	Temp
	12:30	0	"	81	81	81		81.5		81		81.2		81		81.2			
	1:00	1	"	123	122	122.5	122.5	123	122.7	122.5	122.7	125	123.5	123	122.5	122.5	122.5		
	1:10	11	"	122	120.5	121	121.5	122	122.5	122.7	122.7	122.5	122.5	122	122.5	121	121.5		
	1:20	20	"	120	119	120	120	121	121	121	121	121	121	122.5	119.7	120	120		
	1:40	40	"	118.5	117	118.5	119	119.7	119.7	119.7	120.5	119.7	119.5	119.7	117.7	118.5	119		
	2:00	60	"	116.2	115	117	117.7	118.2	118.2	118.7	118.7	118.5	118	117	115.7	117	118		
	2:00	60	"	88.7	89	89.5		89		90		89		89.7		90		75.5	Temp
	2:20	80	"	115	113	116	116.2	117	117	117.7	117	116	116.5	116	114	116	117		
	2:40	100	"	114	111.7	114.5	115	115.7	116	116.5	117.7	117.5	116.5	115	111.7	114.5	115.5		
	2:00	120	"	113	110	112.7	113.7	114.2	115.7	116	117.7	117.7	114.2	114	110	112.5	114.2		

DATE	TIME																										
6/27/[illegible]	2.00	1.00	10	92.5	95	96		94		95.5			94.7		95.5		94.5		95	Temp	
	20	1.00	"	112.5	112.7	112	112	112.5	112.5	112.5	112		112	112.2	112.5	112	112	112.5			
	40	1.00	"	112.2	112.5	112	110	112.5	113	113	114		112.7	112.5	112	112.2	112.5	113			
	.50	1.00	"		101.7											112.5					113.3
	.54	1.04	"			100										110					116.
	.59	1.09	"																		119.3
	2.00	1.30	"	105	97.7	107.7	107.7	112.5	112.2	111	112		105	105.7	102.2	98	105.5	105.5			
	2.05	1.35	"	99.5	101	102.2		94.7		100.5			103		100.5		103		78.5	Temp	
	.10	1.40	"	102.2	92	102.2	106	102.5	107	110	111		104	103	104	92.2	105	107			
	.15	1.45	"	100																	131.
	.18	1.48	"					103													132.3
	.20	2.00	"	99.2	92	108	102.7	99	107	107.7	109		100	100	102.2	94.5	101.7	104.5			133.3
	.23	2.03	"														100				138.3
	.25	2.05	"												100						138.7
	.30	2.10	"	92.5	88.5	100	100	95	104	105	104.5		92.5	95.5	92.5	92	97	101			140.
	.33	2.13	"	87.7	82.2	76	85	91	100	101	100		92	90.5	92	87.7	50	102			143.3
	.45	2.25	"			50				100								85			146.7
	.48	2.28	"																		151.
	.49	2.29	"				50											50			152.3
	.50	2.30	"																		153.
	.52	2.32	"	92	62.7	✓		87	91.2	91	50		85	86	88.2	87	✓	✓			153.3
	.57	2.37	"		50		✓			50											156.3
	.59	2.39	"																		159.
	3.00	3.00	"	50				50	74				78.2	50	80	74					159.3
	.05	3.05	"					50													160.
	.10	3.10	"																		160.3
	.07	3.07	"	108.5	110	115.2		115		108			105.5		108.5		110.2		77.5	Temp	
	.10	2.00	"						50				65		108.5	78.5					166.7
	.13	2.03	"										50								168.7
	.14	2.04	"											50							169.7
	.20	2.00	"													50					173.3
	.20	2.00	"	109	112	105.5		107		110.5			108		109.2		110.5		77.5	Temp	
				✓	✓									✓	✓	✓					

DATE	TIME	MIN	AMP	454	448	551	552	447	446	447	448	398	476	479	480	556	557	104	
6/21/09	6 AM	Range		118	121	(118)		131	(142)		138	23		(145)			(137)		
	4.55	0	30	112	112	111.5		105.5		109		108		106.7		112		77	Temp.
	5.55	10	"	107.2	111.2	106.7		103		1.04		105.7		105.5		106.7		76.2	"
	6.55	120	"	105	109.5	104.7		103.7		1.07		103		103		105		76	"
	7.55	180	"	1.032	1.07	1.03		98.5		1.02		1.012		1.012		1.04		76.2	"
	8.55	240	"	1.02	1.062	1.02		98		1.00		1.004		1.002		1.034		77	"
	9.55	300	"	1.02	1.06	1.027		98.2		1.00		1.012		1.01		1.04		77.7	"
	10.55	360	"	1.032	1.067	1.04		98.5		1.02		1.02		1.02		1.047		81.2	"
	11.55	420	"	1.054	1.08	1.06		1.02		1.04		1.042		1.042		1.077		83	"
	12.55	480	"	1.77	1.767	1.73	1.732	1.73	1.72	1.77	1.767	1.767	1.717	1.76	1.746	1.71	1.73		
						Discharge													
6/21/09	PM 12.00	0	40	1.44	1.422	1.42	1.417	1.407	1.43	1.43	1.422	1.43	1.40	1.40	1.397	1.397	1.387		
	.04	4	"	1.33	1.322	1.33	1.327	1.324	1.34	1.34	1.337	1.34	1.33	1.33	1.322	1.33	1.33		
	.10	10	"	1.31	1.305	1.31	1.307	1.302	1.312	1.305	1.31	1.327	1.31	1.31	1.31	1.31	1.31		
	.20	20	"	1.28	1.277	1.28	1.277	1.277	1.27	1.287	1.287	1.272	1.28	1.28	1.28	1.282	1.28		
	.40	40	"	1.245	1.245	1.25	1.245	1.247	1.257	1.255	1.26	1.257	1.252	1.25	1.247	1.252	1.252		
	1.00	60	"	1.22	1.217	1.23	1.225	1.224	1.232	1.23	1.24	1.23	1.227	1.224	1.217	1.23	1.23		
	1.00	60	"	1.10	1.122	1.112		1.07		1.12		1.092		1.107		1.14		85.7	Temp.
	1.20	80	"	1.20	1.197	1.21	1.207	1.207	1.215	1.215	1.235	1.205	1.207	1.202	1.197	1.212	1.215		
	1.40	100	"	1.19	1.182	1.192	1.192	1.20	1.197	1.207	1.212	1.19	1.197	1.19	1.182	1.197	1.20		
	2.00	120	"	1.172	1.17	1.18	1.177	1.182	1.19	1.192	1.202	1.18	1.182	1.18	1.17	1.182	1.185		
	2.00	120	"	1.15	1.16	1.167		1.11		1.14		1.15		1.13		1.15		87	Temp.
	2.20	140	"	1.16	1.157	1.165	1.162	1.165	1.18	1.16	1.192	1.165	1.167	1.165	1.15	1.167	1.172		
	2.40	160	"	1.145	1.139	1.140	1.145	1.142	1.16	1.145	1.175	1.15	1.155	1.155	1.135	1.147	1.155		

DATE	TIME	MIN	AMTS	704	488	551	642	482	466	467	468	398	478	475	482	568	569	TEMP IDLE
6/21/09	PM 3.00	180	70	112	1105	1137	1137	1117	1152	1152	1112	113	1125	1123	1092	113	1137	
	3.00	180	"	113	120	120		115		113		117	117	1122		122		88 Temp
	3:20	200	"	107	107	111	1105	108	1122	113	114	110	1072	1083	1052	110	1112	
	39½	219½													100			-146.3
	:40	220	"	1022	1002	1065	106	103	1055	1050	1055	104	1035	104	999	108	107	
	41	221			100													-147.3
	46	226	"	100												100		-150.7
	50	230	"	982	96	101	1012	100	106	1082	1077	1015	1002	101	97	96.5	104	-153.3
	50½	230½				100							100					-154.3
	52	232	"				100							100				-154.7
	53	233	"									100						-155.8
	56	236	"														100	-156.7
	58	238	"												50			-158.7
	58½	238½	"								100							-159
	1.00	240	"	934	98	91	90	964	1025	103	96	98	97	98	96		83	
	1.00	240	"	127	131	131		120		122		123		122		120		88 Temp
	1.00½	240½	"			50												-161.7
	.01	241	"				50											-162.7
	.01½	241½	"						100	100						50		-163.7
	.02	242	"								50							-163.3
	10	250	"	83	50			90	947	88		934	95	932	82			-164.7
	10½	250½	"										50					-170.3
	18	258	"	50						50								-172.7
	18½	258½	"					50										-172.3
	.20	260	"						78			84		85	87			-176
	.24	264	"						50			50						-177
	24½	264½	"															
	.30	270	"										50	74				-180.7
	.31	271	"											50				-181.7
	.70	280	"												50			

DATE	TIME	MIN	FLOW	404	488	441	442	482	466	467	468	478	479	480	468	469	TEMP IDLE
6/21/09	Charge			169	122	(49)		137		(147)	149	132		(49)		(59)	
	4:00	0	30	130.7	130.7	130.2		128.5		127.7		128.5		130.5		131.5	90.5 TEMP
	4:30	60	"	128.5	130	127		123.2		126		122		127		127.5	91 "
	6:00	120	"	124.7	126.5	128.2		123.2		121.2		122.2		122		124.7	93 "
	7:00	180	"	120	124	120		119		117		120		118		121	93 "
	8:00	240	"	116	121	118		111		114.7		115		115		119	92 "
	9:00	300	"	115	119	116		110		113		120.5		114		118	92 "
	10:00	360	"	114	118	115		109.5		112.5		112.7		113		117.5	89.7 "
	11:00	420	"	112.2	117	114		109		112		112		112		117	88.5 "
	11:55	470	"	173	172.2	165.5	171	171	174	172.2	173	172.5	169	172	171	166	170 T.D.
6/22/09	Discharge.																
	AM 2:00	0	40	143	141.5	141.5	140	135.5	141	140.2	140.2	141	138	138	137	131	132.2
	.07	4	"	133	132.2	132	131.5	132	133	132.2		134.2	133	132.5	132.5	132	132
	.10	6	"	130.5	132.2	130	129.7	130	131.5	131	130.2	132	131	131	131	130	130
	.20	20	"	127	127	127.2	127	127.7	128.5	128.2	128	129.5	128.2	128	128	127.7	128
	.40	40	"	124	124	124	124	124.2	125.5	125	125.5	125.5	124.5	124.2	124	124	124.2
	1.00	60	"	121	121	121.7	121.7	122	122.2	122.2	123	122.2	122	121.7	121	121.7	122
	1.00	60	"	117.7	116.5	116		111.2		114		113		114		116.5	86.7 Temp
	20	80	"	120	119.5	120	121	121	121	121	122	120.2	121	120.2	119.7	120.2	121
	.40	100	"	118.2	118	118.5	118.5	119.7	120	120	121	119	119.7	119	118	119	119.7
	2.00	120	"	116.7	116.2	117	117	118.2	119	119	119.7	117.5	118.2	117.5	116	117.5	117.7
	2.00	120	"	116.5	121.2	120		114		117		116.2		117		123.2	84.5 Temp
	2.20	140	"	115.5	118.5	117	115.5	116	117.7	117.7	118.2	116	116	116	114	115.7	116.5
	.40	160	"	115	117.2	115	113	113	116	116.2	117	114	114	114	111	115.5	115

DATE	TIME	MIN	AMPS	407	477	551	552	472	476	467	471	395	478	479	478	562	589	1045	
2/22/04	3.00	100	40	119	109	111	110.5	113	114	114	115	111	111	111.5	107	110.2	112		
	3.00	110	"	117	122.5	122		115.7		119		117.2		118.5		122.5		57	Temp
	.10	190	"												105.5				
	.20	200	"	107	115.5	108	108	113	112	112	113	105	102	108	112.5	107	110		
	.30	210	"	104	102.2	104	105	109.5	110	110	115.5	115.7	102	115.7	121	105.5	108		
					100	100									100	100			144
	.35	215	"				100												146.
	.40	220	"	100.2	95.2	92.2	97	102.2	102	105	109	103	102	103	99	50	104		
				100												50			148.3
	.45	225	"			50													149.
	.50	230	"														100		150.3
								100				100	100						152.
	.55	235	"									99	95	100	95		49		152.7
	.60	240	"	95	90		50	96.5	104	104	102.2						50		153.3
											100								155.7
	.65	245	"			✓				100									158.7
							✓				50								159.7
	4.00	240	"	87	73			94	100	97		95	92	95.7	93				160.
	4.00	240	"	120.5	126.5	130		117.5		122		120.5		122		127		57	Temp
					50					50									161.3
	.10	250	"																165.
	.15	255	"	56									50						166.
	.19	259	"					55	53.7			85		87	42	✓	✓		
								50											168.3
	.20	260	"	✓					50										172.7
	.25	265	"									64		67	77				
												50							175.7
	.30	270	"											50					177.3
															55				
	.35	275	"	126	124.2	130		127		129.5		124.2		121	50	132.5		57	182.1
													✓		✓				Temp
														✓					

DATE	TIME	MAN	MOTS	479	478	551	552	482	466	467	468	398	478	477	470	556	557	[illegible]	
5/22/09	[illegible]	Lunge		170	172	(60)		134	(142)	137		233	(150)			(60)			
	4:55	0	30	129	125	127.5		124	126.7			125.5		127.7		130.5		27	Tank
	5:55	60	"	122	122.7	121		116		119		120.5		122.7		122.2		26.5	"
	6:55	120	"	117	122.7	117		117		117.7		115.5		115.2		115.2		27	"
	7:55	180	"	113.5	118.7	113.7		107.5		111		111.2		111.7		116		26.2	"
	8:55	240	"	115.5	116.7	112		106		109.2		109.7		110		114.5		26.5	"
	9:55	300	"	110	115.5	111		104		108		108.2		108.5		113.5		26.5	"
	10:55	360	"	109.2	113.2	110.2		104.7		108		107.7		108		113		27	"
	11:55	420	"	109.5	113	110.7		104		108.2		107.8		108		112.7		28	"
	11:55	420	"	109	113.2	110	111.7	111	114	113.2	113.7	107.3	108.4	112.2	111	108	110		T.D.
6/22/09	7:17			D. Lochinger															
	1:00	0	0	142.5	140.7	141.5	141.5	140	141.5	141.2	141.2	141.5	137	138.5	137.5	137	137		
	.04	4	"	133	132.5	132.2	132	132.2	133.5	132.7	132.7	134.5	133	133.7	133.7	132.2	132.2		
	.10	10	"	130.2	130	130	129.7	130	131.2	130.7	130.5	132	131	130.5	130.5	130	130		
	.20	20	"	127.7	127.2	127.2	127.2	127.5	128.5	128	128	129.2	128.5	128.2	128	127.2	127.7		
	.40	40	"	124	123.5	124	124	124.2	125	124.7	125.2	125	124.2	124	122.7	124	124.2		
	1.00	60	"	121.2	120.7	122	121.7	122	122.5	122.2	122.5	122	121.7	121.5	120.7	121.7	122		
	1.00	60	"	113	113.7	114		109.7		112		111.7		112.7		111.7		892	Tank
	.30	90	"	119.5	118.7	120.2	120.2	120.5	120.7	121	122	120	120.2	120	119	120	120.5		
	.40	100	"	118	117.5	118.2	118.7	119.5	120	120	120.7	119.5	119.2	118.5	117.2	118.7	119.2		
	1.00	120	"	116	116.2	116.7	117	117.2	118	118.5	119.2	117	117.7	117	116.5	116.7	117.2		
	2.00	120	"	116	120	120		115		115		116		116		122		892	Tank
	.20	140	"	115	114.2	115.2	114.7	115.2	117.2	117.2	118.2	115	115.5	115.2	112.2	115	116		
	.40	140	"	113	111.7	113.7	113.5	115	116	115.7	116.7	113.5	113.2	113.5	109.2	112.7	113.2		

DATE	TIME	MINERAL		464	465	466	467	468	478	479	480	568	569	TEMP IDLE	
1997. 6/2/97	2.00	180	4/0	1097	1082	111	107	110	114	137	1152	1047	1077	1047	1047	1097	112		
	3.00	180	"	118	1227	1227		1152		187		118		118		1247		90	Temp.
	30	200	"	106	104	107	1072	1087	111	111	112	106	1047	106	101 100	1047	1082		
	34	200	"													100			-136
	35½	208½	"																-137
	30	210	"	103	106 1.00	113	1042	1035	109	103	111	1630	1025	1037	99	93	186		
	31	211	"																-140.7
	33	213	"			100													-144
	34	216	"				100												-144
	34½	216½	"	100									100						-144.3
	36	218	"																-145.3
	39½	218½	"													2-0			-146.3
	40	220	"	99	96	81	95	109	106	107	1082	1000	997	1000	97		100		-146.7
	41½	221½	"					100				100		100					-147.7
	42½	222½	"			50													-149
	43	223	"				50												-150
	44	224	"														50		-150.7
	44½	224½	"								100								-152
	45	225	"	94	65	✓	✓	98	103	103	98	98	96	98	95	✓			-153.3
	45½	225½	"						100	100							✓		-154.5
	50	230	"						102										-154.3
	50	230	"								60								-157
	37	237½	"		50														-158.3
	403	243	"	58	✓			80	81	82		89	54	70	68				
	403	243	"																-162.3
	03	244	"	50									50						-163.7
	03½	244½	"							60									-164.7
	06½	247½	"	✓				50											
	13	254	"						50			72		77	84				-167
	13½	254½	"									50							-171.3
	17	258	"										1	50					-172.3
	18½	258½	"												66				
	20	260	"													50			
	25	265	"	1.7															-174.7
	25	265	"	1.302	136	132		1252		1267		130	✓	133		129		91	
														✓	✓				

DATE	TIME	MIN	AMPS	464	466	551	552	482	462	463	463	598	476	479	480	502	504	Bill	
4/29/63	Discharge			121	124		(24)	139	(149)	157		238		(151)			(61)		
	PM 400	0	30	129	133.2	125.5		124		126.5		126.5		127		130.5		907	
	500	10	"	125	130	124		119		121		122		122		125		89	
	600	120	"	122	126	121		116		115		117		119		122		89	
	700	180	"	119	124	113.5		113.5		115		116		115.5		119		88	
	800	240	"	115	121	116		111		113		114		112		117		87	
	900	300	"	115	120	115		116		112		112		112		115		87	
	1000	360	"	115	119	114.5		108		111		114		117		115		87.7	
	1100	420	"	114	117.7	114		106.7		111.5		111		110.7		114.5		87.5	
	1155	450	"	176.2	174.2	170	172	172.2	177	175	175	172	171	173.5	173	169.5	171		Thus
						Discharge													
6/2	PM 1200	0	40	177	172	172	171	170	172	171	171	172	137	137	137	137	137		
	10	4	"	133.7	133.2	132	132.5	132	132.2	131	131.7	133.5	133.7	133.7	133.7	133	133		
	10	10	"	131.5	131	130.5	130.5	130.5	130.2	131.5	131	131.5	131.5	131.5	131.5	130.5	130.5		
	20	20	"	128.5	128	127	127.7	128	129	129	128.5	130	129	128.5	128.5	128	128		
	40	40	"	125	125	125	125	125	126	126	126	126.5	125.5	125.5	125	125	125.5		
	1:00	60	"	122.5	121.7	122.2	122.5	122.5	123	123	124	123	122.5	122.5	122.7	122.5	123		
	1:00	60	"	114.5	118	115.5		110		112.5		112		111.7		116.2		917	Temp
	20	80	"	120.2	120	121	121	121.5	121.7	121.7	122.5	121	121	120.5	120	121	121.5		
	40	100	"	119	116.5	119.5	119.5	120	120.5	121.7	121	120	119.7	119	118	119.5	119.7		
	2:00	120	"	118	117	117	117.7	116.2	119	119.7	120	119	118.2	118.5	118.5	118.5	118.7		
	2:00	120	"	115.5	120	117.2		117		114		115.5		113		118		82	Temp
	20	140	"	116.2	115	116	116	117	118	118	118.5	116.5	117	116.2	115	116	117		
	40	160	"	115	117.5	114.2	114	115	116.5	116.5	117.5	116.5	115	115	112.5	114.5	116.7		

DATE	TIME	MIN	AMPS	404	488	551	552	482	466	467	468	398	478	479	480	568	569	TEMP Addl	
6/23/09	3:00	110	70	112.5	111	112	112	112.5	115	115	115.7	113	113	113	109.7	112.5	113.7		
				115.7	120	120.5		111		113.7		112		113		120.5		81.5	Temp
	2:00	120	"	110	107.7	109.5	109.5	109	113	113	113.7	110.5	110	110.2	110	109	111		
	1:45	225	"	105	102	101	104	106	109.7	110	112.5	106.7	106	106.2	101	100	107		133.3
	1:37½	237½	"			100													149
	1:25	225	"		100										100				150
	1:17½	217½	"				100									50			152.3
	1:50	250	"	101	92.5	50	92.5	103	107	102.5	105	103	103	103	98		100.5		
	1:31	231	"			50											100		154.
	1:22	222	"																154.7
	1:13	213	"	100															155.3
	1:07½	207½	"				50					100	100						159.
	1:00	200	"	95	81.7			100	104	103.5	100		99	101	96.5		50		160.
	1:00	200	"	117	123	126		114		116.2		112.5		114.7		127		80.7	Temp
	.03½	193½	"											100					162.3
	.00½	190½	"							120									164.
	.05	195	"		50	✓	✓				50					V	V		165.3
	.01½	171½	"						100										165.7
	.10	210	"	81.7				93.7	95.5	92		94	88	95	92				
	.14	214	"	50						50									169.3
	.14½	214½	"										50						170.3
	.17½	217½	"	✓															171.7
	.20	220	"					60	95			83		85.5	85				
	1.21½	261½	"					50											174.3
	.27	267	"						80										178.
	.29	269	"									50		62	71				180.
	.31	271	"											50					182.7
	.32	272	"												62				185.3
	.32	272.5	"	124.7	131	125		120		122		115		116.7		127		78.5	Temp

Cells 404, 488 were removed from this test and connected up on testing board for over charge test. See results in individual record book 6/23/09

Date	Time	MPH	Amps	551	552	1.2	446	447	448	395	474	479	478	528	527	Temp	
6/23				(122)		1.143	(1.152)		1.122	235		1.122		(1.122)			
	Am 4:55	0	20	1.122		120		121		1.122		121.7		124		80.5	Temp.
	5:55	0	"	1.115		111		113		114		1.125		117.5		80.2	"
	6:55	1.10	"	1.075		1.07		110		1.075		110		114.7		80.5	"
	7:55	1.0	"	1.047		1.04		1.07.2		1.077		1.074		1.097		81.7	"
	8:55	1.04	"	1.03		1.027		1.04.7		1.06		1.06		111		82.5	"
	9:55	1.00	"	1.022		1.02		1.04.5		1.062		1.062		110		83.7	"
	10:55	1.00	"	1.022		1.04		1.062		1.06		1.062		111		84.7	"
	11:55	1.00	"	1.05.2		1.05		1.084		1.08.5		1.08		112		86.7	"
	12:55	1.00	"	1.722	1.722	1.717	1.765	1.747	1.75	1.752	1.72	1.74	1.725	1.692	1.705	TD	
			Discharge														
	PM																
6/23/09	1:00	0	1/0	1.407	1.402	1.395	1.407	1.407	1.405	1.412	1.385	1.385	1.375	1.367	1.367		
	.04	1/	"	1.322	1.32	1.325	1.335	1.335	1.332	1.347	1.332	1.33	1.33	1.325	1.327		
	.10	1/0	"	1.30	1.20	1.20	1.32	1.31	1.307	1.32	1.31	1.307	1.31	1.302	1.302		
	.20	2.0	"	1.277	1.275	1.274	1.282	1.28	1.28	1.292	1.282	1.28	1.28	1.277	1.277		
	.40	1/0	"	1.242	1.24	1.242	1.252	1.252	1.247	1.255	1.25	1.242	1.24	1.242	1.247		
	1.00	6.0	"	1.22	1.222	1.220	1.23	1.227	1.230	1.235	1.222	1.22	1.22	1.222	1.225		
	1.00	6.0	"	1.04		1.11		1.145		113		1.132		1.122		88	Temp.
	.20	8.0	"	1.267	1.261	1.212	1.212	1.25	1.222	1.267	1.267	1.20	1.195	1.205	1.267		
	.40	10.0	"	1.172	1.172	1.20	1.202	1.202	1.212	1.172	1.175	1.19	1.177	1.19	1.195		
	2.00	12.0	"	1.172	1.177	1.182	1.192	1.192	1.20	1.20	1.18	1.18	1.16	1.125	1.18		
	2.00	12.0	"	1.04	1.06	1.05		1.18		1.17		1.172		1.22		90	Temp.
	.20	14.0	"	1.16	1.16	1.162	1.177	1.18	1.165	1.165	1.167	1.165	1.157	1.157	1.165		
	.40	16.0	"	1.14	1.142	1.142	1.165	1.162	1.175	1.175	1.147	1.162	1.157	1.157	1.165		

DATE	TIME	MIN	AMPS	551	552	482	566	567	568	378	478	479	480	568	569	TEMP IDLE	
6/2 3/09	2:00	180	40	1117	1117	1115	1197	1197	1155	1127	112	112	1025	111	1125		
	3:00	180	"	118		118		1217		120		1265		126		905	temp.
	10	190	"	1132	1132	113	1137	1137	1145	111	110	1162	1357	1195	111		
	20	200	"	1082	1082	108	1082	112	113	1092	1082	1082	1036	1072	1092		
	30	210	"	1062	1062	106	110	111	112	107	106	106	1002	103	1077		
	35	213½	"											100			142.3
	39½	214½	"										100				143.
	40	220	"	100	101	103	1027	108	109	107	1025	1020	982	67	1022		146.7
	41	221	"		100												147.3
	42½	222½	"											50	100		148.3
	44½	224	"								100						152.
	47	229	"			100											152.7
	50	230	"	66	71	999	1045	105	1032	106	9972	100	96	✓	50		153.3
	52	232	"	50													154.7
	52½	232½	"		50				100								155.
	54	234	"					100							✓		157.3
	56½	236½	"						50								159.
	59	239	"				100										159.3
					✓												
	4:00	240	"			94	99	94		95	90	842	92				
	4:02	242	"	129		122		125		120		126		105	912		temp.
	03	243	"					50									164.7
	08	248	"	✓						50							165.3
			"														
	10	250	"			50	81				86	87	85				166.7
	10½	250½	"				50										170.3
	20	260	"							95		98	68				173.3
	22	262	"									80					174.7
	27	267	"										80				178.

Cells 551, 552, 568, 569 were removed from this test and connected up on testing board for overcharge tests. See results in individual record book, 6/28/09.

DATE	TIME	MIN	AIR	462	466	467	468	378	478	479	480		
				141	(137)		103	236		(133)			
6/23/09		Charge											Temp.
	4:00	0	20	128		130		130		130		92	"
	5:00	60	"	122		120		126		125		92.5	"
	6:00	120	"	118		122		122		122		92.5	"
	7:00	180	"	113		117		118		119		93	"
	8:00	240	"	110		113		115		116		91.5	"
	9:00	300	"	108		111		112		112		91.5	"
	10:00	360	"	106		110		111		111		89.7	"
	11:00	420	"	106.5		110		110.5		110.5		89.7	"
	11:00	420	"	172	176	173	173	173	129.5	128.5	172.5	T.D.	
6/24/09	A.M.		Discharge										
	12:00	0	40	142	143	142	141.5	142	139	137.5	137		
	01	1	"	132	133	133	133	134.5	133	133	133		
	10	10	"	130	131	130.5	131	132	130.5	130.5	130.5		
	20	20	"	127.5	128	128	128	129	128	128	128		
	40	40	"	124	124.5	127.5	125	125	124.5	124	124		
	100	60	"	120	122	122.5	122.5	122.5	122	122	122.5	115.5	Temp
	100	60	"	110		114		117		114			
	120	80	"	120	120.5	120.5	120.5	120	120	119.5	119.5		
	140	100	"	119	119	119.5	120.5	119.5	119.5	119.5	119		
	2:00	120	"	117	117	117	119	119	117	117	115		
	2:00	120	"	117.5		117.5		117		115		87.7	Temp
	120	140	"	114.5	115.5	115.5	115.5	115	114.5	115	115.5		
	140	160	"	112	115	115	115.5	115	112	113	115		

DATE	TIME	MIN	AMPS	452	461	467	468	478	479	480	Sell	
6/27/[illegible]	3:00 AM	1.0	40	109	113	113	114	113	109	109.7	109.5	
	3:00	1.0	"	112		110.2		115.7		116.2	86.5 Tenny	
	.10	1.0	"	107						105	102.2	
	.20	2.00	"	104.2	109.7	110	111.2	105	104	105	100.	133.3
	.30	2.10	"	102.4	108	108	109.4	108	102.2	102.4	98	
	.37	2.17	"						100			145.
	.38	2.18	"	100								145.3
	.39	2.19	"							100		146.
	.40	2.20	"	99	100	100.7	106.2	102	98.5	99.5	97.5	
	.45	2.25	"				100	100				149.3
	.50	2.30	"			100						150.3
	.55	2.35	"	89	100	87	62	92	77	93	91.5	153.3
	4:00	2.40	"	80	91	66	50	88	50	89	87	154.7
	.05	2.45	"			50						160.
	.10	2.50	"	115		119		117.5		117		162.3
	.15	2.55	"	50							55.5 Tenny	
	.16	2.56	"									164.3
	.17	2.57	"		7/50			73.5		74.7	77.7	
	.18	2.58	"					50		50		169.3
	.19	2.59	"									169.7
	.20	3.00	"							66 50		170.3
	.21	3.01	"									179.3
	.29	3.09	"	120		125		121.7		121	Tenny	

DATE	TIME	MIN	AMPS	462	466	467	685	476	478	479	480	Volt.	
1/27/09	6 hrs			142	(142)		154	237	(	154)			
	Am 4.55	"	30	113.5		125			122.7	122.2		85	Temp.
	5.25	60	"	113		113			113.5	113.7		85	"
	6.25	120	"	107		111.5			112.2	112.7		85	"
	7.25	180	"	106		111			111.7	111.7		87	"
	8.25	240	"	105		109.2			110	110.2		87	"
	9.25	300	"	104		109			109	109		88	"
	10.25	360	"	104		108.5			108.2	108.7		89	"
	11.25	420	"	104.7		110.7			110.7	110.5		90.5	
	11.25	420	"	171	172.2	172.7	171.7		171.7	168	172.7	91.2	T.P.
				Discharge									
1/24/09	PM 12.00	0	40	141	142.5	142	141.7		141	139.2	139	137.7	
	.04	4	"	132	133.7	133	132.7		134.2	132	132.7	132.7	
	.10	10	"	129.5	130.7	130.5	130		131.7	131	130.2	130	
	.20	20	"	127	128	127.5	127.5		128.2	127.5	127.2	127.2	
	.40	40	"	124	124.7	124.2	124.5		125.5	124.2	124	123.7	
	1.00	60	"	122	122.2	122	122.2		122.7	122	121.7	120.5	
	1.00	60	"	110		115			114.7		115		91.7 Temp.
	20	80	"	120.5	120.7	120.7	121.2		121.2	120.2	118.7	117.7	
	40	100	"	119	119	119.7	120.5		118.2	118.5	118.2	116.7	
	2.00	120	"	117.5	118.5	118.2	119.2		117	117.2	117	115	
	20	120	"	114.7		117.5			118.7		119		92.2 Temp.
	20	140	"	115.5	117.2	117	118		115.5	115.5	115.5	113.7	
	40	160	"	112.7	113.7	115.5	116.5		113.5	113.5	115	109	

DATE	TIME	MIN	AMPS	482	466	467	468	375	423	477	480	Delt	
4/24/59	3:00	180	40	110	1197	1135	1147	1162	1095	1145	1162		
	3:00	180	"	1152		1232		1224		1222		93	Temp.
	10	190	"	1082	1122	1122	114	109	1024	1080	1097		
	20	200	"	1157	110	1162	112	106	1042	1052	1067		
	24	204	"								100		136.
	30	210	"	1092	114	1022	116	1037	1017	1025	982		
	34	214	"						100			"	142.7
	37	217	"							100			144.7
	38	218	"					100					145.7
	40	220	"	100	1060	1040	106	997	98	992	96		146.7
	45	225½	"				100						150.3
	48	228½	"			100							151.7
	49	229½	"										153.
	50	230	"	91	100	98	74	95	92	945	928		
	52	232	"		999		80						154.7
	59	239	"						50				159.3
	4:00	240	"	82	92	63		90		90	91	9.	
	4:00	240	"	125		121		127		121		930	Temp
	01	241	"			60							160.7
	05	245	"	50									163.3
	07	247½	"		50			50		57	76		165.
	10	250	"							50			166.7
	12	252½	"								51		167.7
	20	260	"										
	96	260½	"								50		173.7

DATE	TIME	MIN	RATE	482	466	467	398	478	479	484		Date	
				#1/3	#1/3	#1/5	#238	(1/25)					
6/24/07	Charge												
	4:30	0	30	126		130		130.7		130.2		93.5	Temp.
	5:30	60	"	121		125.7		127		126.2		93	"
	6:30	120	"	117		122		123		122.5		93	"
	7:30	180	"	114		118.5		119		119		93	"
	8:30	240	"	111		115		115		116		93	"
	9:30	300	"	109		114		114		114.5		91	"
	10:30	360	"	107.5		113.5		113.5		113.7		90	"
	11:30	420	"	107		112.7		112.5		113		90	"
	11:30	420	"	171	174	171	171.5	172	167.2	171	171.5		P.D.
				Discharge									
6/25	12:00	0	40	141.5	143	142.2	141	142	139	138.5	137		
	.04	4	"	132	133	132.5	132	134	132.2	132.2	131.5		
	.10	10	"	130	131	131	130.2	132	131	131	131		
	.20	20	"	127.7	128.2	128	128	129	128	128	128		
	.40	40	"	124	125	124.5	125	125	127.2	124	127.7		
	1.00	60	"	122	122.5	122.2	123	122	122.2	121.7	121		
	1.00	60	"	112		116.2		115.7		116.5		89.7	Temp
	.20	80	"	120.2	120.2	120.5	120.7	120	120	120	119		
	.40	100	"	119.5	119.7	119.7	120	118.5	118	118.5	119		
	2.00	120	"	116.7	118.2	117.5	118.7	116.5	116.2	116.5	117.5		
	2.00	120	"	114		119		118		119		89	Temp
	.20	140	"	115	117	116.2	117.5	115	114.5	115	117.2		
	.40	160	"	113	116	115.5	116.2	113	112.5	113.5	116		

DATE	TIME	MIN	AMPS	442	444	447	448	394	476	479	480	1065	
	Rec												
2/2/07	2.00	180	40	107.7	110.2	112	114	109	107	105.5	105.5		
	2.00	190	"	114.2		120.5		119.7		120.5	102.5	88.5	Temp
	.10	190	"								100		
	.20	200	"	105.9	111	113.2	112	107	104.5	106.5	102		
	.29	209	"								100		139.3
	.30	210	"	107	109	105.5	110	104.5	103.5	104	X		
	.35	215	"						100				143.3
	.40	220	"	103.2	111.2	110	107	101	99.5	101	97		
	.41	221	"	100									147.3
	.49	229	"					100		100			149.
	.50	230	"	97	103	101.5	103	97	98.2	97	98.5		153.3
	.54	234	"			108							155.
	.55	235	"		100		50						156.7
	4.00	240	"	88	95	99.7		91	89.5	91	90.5		
	4.00	240	"	117		127.2		122.5	50	124		88.5	Temp
	.03	243	"										162.
	.04	244	"			50							163.
	.07	247	"	50									164.7
	.10	250	"		70			71		70.5	81		169.3
	.14	254	"		50			50					171.3
	.17	257	"							50			171.7
	.17	257	"								80		
	.25	265	"								50		179.
	.26	266	"	124		124.5		122		124		88.5	Temp
	.35	275	"										
				✓									

DATE	TIME	MIN	AMP	412	466	417	408	398	471	479	480	126	
4/25/09		Charge		144	(141)	151	239	(151)					
	4:25	0	20	121.5		127		126.2		129		88	Temp
	5:00	40	"	114		122.5		122.5		122.2		88	"
	6:00	120	"	112.5		117		117.5		117.5		88	"
	7:00	180	"	108.		112.7		113.5		116.5		88	"
	8:00	240	"	106.7		112		113		113.		88.2	"
	9:00	300	"	107		111.7		112		112.2		89	"
	10:00	360	"	107.2		112		112.2		112.7		90.2	"
	11:00	420	"	108.		112.7		112.7		113.		91	"
	11:50	470	"	1.712	1.747	1.722	1.72	1.722	1.692	1.71	1.712		V.D.
				Discharge									
4/25/09	PM 12.00	0	40	1.41	1.425	1.422	1.41	1.41	1.39	1.392	1.386		
	.04	4	"	1.325	1.332	1.335	1.322	1.322	1.332	1.33	1.33		
	.10	10	"	1.302	1.312	1.31	1.305	1.32	1.312	1.31	1.31		
	.20	20	"	1.277	1.29	1.292	1.282	1.292	1.28	1.282	1.28		
	.40	40	"	1.25	1.267	1.262	1.267	1.26	1.26	1.267	1.265		
	1.00	60	"	1.222	1.23	1.225	1.232	1.222	1.22	1.217	1.212		
	1.00	60	"	113.		117		116.5		117.		92.5	Temp
	.20	80	"	121	1.212	1.212	1.22	1.205	1.207	1.20	1.192		
	.40	100	"	1.195	1.197	1.197	1.207	1.187	1.15	1.167	1.175		
	2.00	120	"	1.177	1.182	1.182	1.192	1.17	1.172	1.17	1.165		
	2.00	120	"	116		120		1.19	[illegible]	[illegible]		92.7	Temp
	.20	140	"	1.155	1.172	1.17	1.13	1.165	1.152	1.155	1.177		
	.40	160	"	1.153	1.16	1.155	1.165	1.157	1.157	1.155	1.17		

DATE	TIME	MIN	AMTS	482	466	467	468	378	478	479	480
6/24/09	PM. 3.00	180	%	1162	114	1135	1141	1107	1092	1185	106
	3.00	180	"	118		123		129		1232	
	10	170	"	1023	1135	113	1137	1092	1072	1050	104
	25	200	"	1065	111	1107	1122	1072	1045	1065	102
	30	207½	"							100	
	35	210	"	1037	1092	108	1097	1033	1002	169	987
	37	217	"						100		
	40	220	"	102	107	106	1027	1017	99	100	172
	41	221	"							100	
	42	222	"					100			
	43	222½	"	100							
	47	227	"				100				
			"								
	50	230	"	97	102	103	82	92	925	92	94
	57	237	"		100						
	59	237½	"				50				
	4.00	240	"	88	99	98		90	50	90	895
	4.00	240	"	172		129		127		127	
	03	242	"			50					
	07	247	"	50							
	10	250	"		56			41		41	95
	10	250½	"		50						
	12	252	"					50			
	12	252½	"							50	
	20	260	"								50
				✓				✓			

TEMP TABLE	
93.2	Temp
	138.3
	144.7
	147.3
	148.
	149.
	151.3
	153.3
	159.
	159.3
	160.
	Temp
	161.3
	164.7
	167.
	168.
	169.3
	173.3

DATE	TIME	MIN	AMP	452	466	462	468	398	476	479	480	Temp Side	
4/25/09		Discharge		145	(155)	157	240		(157)				
	PM 455	0	30	1247	130		Low		127			94	Temp
	555	60	"	1162	122		127		132			91	"
	655	120	"	112	118		117		119			90	"
	755	180	"	109	115		115		116			85	"
	855	240	"	104	111		111		112			84	"
	955	300	"	100	114		118		119			84	"
	1055	360	"	103	109		110		110			83	"
	1155	420	"	103.5	109.5		110		110.2			83	
	1155	420	"	174	172.2	174.2	175	176	171	176.2	174.5	T. D.	
				Discharge									
4/26/09	AM 1200	0	40	142	144	143	140	142.5	133.5	139	136.2		
	:10	4	"	122	133.5	132.5	133	133	133.5	133	133.5		
	:10	10	"	130	131.5	131	131.5	131.2	131	131	131		
	:20	20	"	124	129.5	129	129.5	130	129	129.5	129.5		
	:40	40	"	124.2	125	125	125.5	125.5	124.5	124.2	124		
	1:00	60	"	122	122.2	122	123	122	122	122.5	121		
	1:20	80	"	117.5		120.5		122		123		83	Temp
	:20	80	"	121	121	121	122	120.2	120.2	120	119.5		
	:40	100	"	119.7	120	120	121	119	119	119	119.5		
	2:00	120	"	117	118.2	118.5	119	117.5	117.5	117	117.5		
	2:00	120	"	109.5		114.5		114		115		83	Temp
	120	140	"	116	117	117	117	115.5	115.5	115.5	113		
	140	160	"	113	114.5	114.5	115.5	115.5	115.5	113	112		

DATE	TIME	MIN	KNP	482	462	467	428	355	478	479	1180	Dell	
6/22/[illegible]	AM 2:00	160	40	110	112	115	114	111	109.5	110	111		
	2:00	160	"	112		118		117		118		83	Temp
	:20	2:00	"	108	112	112	113	109.5	107.7	108.2	109		
	:30	2:10	"	106	110	110	111.7	107	105	105.7	102		
	:40	2:20	"	102	108	108	109.5	106	103	105.5	100		145.7
	:45	2:20	"								100		
	:47½	2:22½	"	100	105	105	105.5	105	102	100	95.2		151.7
	:50	2:25	"	100				105	102				153.3
	:52	2:27	"				100						154.7
	:55	2:30	"										156.7
	:59	2:34	"			100							159.3
	4:00	2:40	"	95.7	100	97.7	62	95	94.5	95	93		160.
	4:00	2:41	"	113		120			119.2		121	80	Temp.
	:02	2:42½	"				63						164.7
	:10	2:50	"	.88	912	622		877	840	888	892		166.7
	:12	2:52	"			850							169.7
	:17	2:57	"	850									172.7
	:20	2:60	"		884			627		666	785		174.
	:21	2:61	"		850								175.
	:22	2:62½	"					50		50			176.3
	:24	2:64½	"								567		
	:30	270	"										
	:30	270	"	1185		1275		1332		1252		82	Temp
	:32	272	"								50		182.
				✓				✓					

DATE	TIME	MIN	MTR	482	466	467	468	478	479	480	Temp. of Ice
6/26/09	9.45 A.M. Change			146	156	158	271	156			
	1.45	0	30	1.82	124.7		1207		1207		83.2 Temp.
	5.45	60	"	113	119		1207		1205		83
	6.45	120	"	1.077	1.142		1.105		1.125		84.2
	7.45	180	"	1.05	111		112		1122		85.7
	8.45	240	"	104	1.082		1087		109		86.5
	9.45	300	"	104	109		109		1095		87.5
	10.45	360	"	105	1.077		110		1102		
	11.45	420	"	1.22	125	123	123	120	123	123	
	12.45	480	"	101		111		111		111	P.D.

Third table = 6 hours over Saturday and Sunday charged

6/28/09	9.11 A.M.		Discharge								Temp.
	1.00	0	40	1.207	1.206	1.20	1.205	1.27	1.28	1.202	1.207
	.04	4	"	1.225	1.224	1.222	1.217	1.225	1.227	1.22	1.22
	.10	10	"	1.207	1.207	1.20	1.212	1.205	1.202	1.20	1.20
	.20	20	"	1.185	1.184	1.179	1.174	1.175	1.187	1.185	1.18
	.40	40	"	118	118	1.177	1.165	1.175	1.172	1.167	1.16
	1.00	60	"	1.167	1.167	1.165	1.177	1.165	1.167	1.165	1.17
	1.00	60	"	90		967		977		982	89.5 Temp.
	.20	80	"	1.157	1.16	1.16	1.172	1.165	1.177	1.165	1.27
	.40	100	"	1.14	1.15	1.15	1.16	1.135	1.132	1.135	1.13
	2.00	120	"	1.117	1.14	1.127	1.127	1.117	1.112	1.115	1.115
	3.00	180	"	1.012		1.07		1.03		1.03	89.2 Temp.
	3.0	1.20	"	1.092	1.125	1.12	1.125	1.097	1.082	1.092	1.03
	3.30	1.50	"							1.00	1.06
	4.0	2.60	"	1.057	1.102	1.10	1.107	1.065	1.062	1.065	1.072

DATE	TIME	MIN	AMTR	482	466	467	468	378	476	479	480	Temp. ° C
	.9872	/3872	70						100			119
6/8/07	3.00	/80	70	1.017	1.024	1.024	1.09	1.02	.992	1.024	.982	
	3.00	/80	"	1.065		1.102		1.024		1.097		83.7 Temp.
	.02	/80	"							100		124
	.072	/872	"	1.00								125
	.08	/88	"						100			125.3
	.151	/78	"	.977	1.044	1.042	1.087	.972	.942	.977	.927	
	20	200	"	.94	1.017	1.012	1.00	.982	.972	.924	.907	133.3
	20	200	"			100						137.7
	.27	207	"		100							139.3
	.30	210	"	.902	.982	.942	.950	.90	.867	.902	.882	140.
	.40	220	"	.812	.91	.865		.827	.732	.840	.842	
	.40	220	"			150						147.
	.41	221	"						150			147.3
	.41	226	"	150								151.
	.47	227	"				150					153.
	50	230	"		60					74	87	71
	.51	231	"							150		153.3
	.58	238	"								150	154.3
	60	240	"	1.14		1.19		1.172		1.177		159.
				✓				✓				83.2 Temp.

	Time	Min	Min	482	466	467	468	398	478	477	480	Temp. Adds
6/28/09	change			147	(157)	167	242		(159)			
	P.M.											
	5:45	0	30	108		112		113		112.2		103 Temp.
	5:54	60	"	104		105		102		110		102 "
	6:14	120	"	104		106		107.2		107		100 "
	7:45	180	"	98.7		103		104		104.7		100 "
	8:45	240	"	97.		101.7		102.5		102.7		80. "
	9:45	300	"	97.2		101.5		102.		102.2		80 "
	10:45	360	"	98.		102.2		102.5		102.5		81. "
	11:45	420	"	99.5		104.		104.		104.		82.5 "
	11:55	420	"	1.742	1.79	1.762	1.76	1.772	1.722	1.76	1.762	77 D.
6/28/09	P.M.											
	1:00	0	40	1.43	1.45	1.442	1.44	1.44	1.412	1.405	1.40	
	.04	4	"	1.33	1.392	1.34	1.34	1.352	1.337	1.332	1.335	
	.10	10	"	1.305	1.312	1.312	1.31	1.335	1.31	1.31	1.31	
	.20	20	"	1.277	1.285	1.285	1.282	1.292	1.287	1.28	1.25	
	.40	40	"	1.242	1.25	1.25	1.252	1.252	1.247	1.245	1.237	
	1.00	60	"	122	1225	1222	123	1232	123	1215	1218	
	1.00	60	"	104		108		1075		100		84 Temp
	.20	80	"	120	120.2	1202	1217	120	120	120	118	
	.40	100	"	117	119	117	120	118	118	118	1165	
	2.00	120	"	116	1113	1132	1157	117	117	117	116	
	2.00	120	"	1065		112		112		1115		86 Temp
	.20	140	"	116	117	117	118	1157	1167	1157	1157	
	.40	160	"	112	114	117	117	113	113	113	110	

DATE	TIME	MIN	AMPS	482	411	467	468	392	478	479	480	Volts	
1/26/69	PM 3:00	180	90	1.16	1.13	.15	1.15	1.11	1.072	1.0	1.012		
	3:00	180	"	1.10		1.047		1.13		1.13		86	Temp
	:10	190	"	1.015	1.12	1.126	1.14	1.16	1.08	1.07	1.04		
	:20	200	"	1.16	1.10	1.11	1.12	1.07	1.05	1.06	1.017		
	:26	206	"								100		137.3
	:30	210	"	1.03	1.08	1.09	1.12	1.045	1.02	1.03	.997		
	:36	216	"						100				144.3
	40	220	"	1.11	1.01	1.065	1.08	1.01	.99	1.00	.97		146.7
	40	220		1.00				1.00					147.7
	:50	230	"	.997	1.02	1.022	1.00	.97	.95	.96	.9745		153.3
	:54	234	"		1.00	1.00							156.
	:58	238	"				.50						158.7
	4:00	240	"	.92	.96	.917		.917	.94	.917	.917		
	4:00	240	"	.114		119.		117.		1.12		87	Temp
	02	242	"						50				164
	07	247	"			50							164.7
	10	250	"	.70	80			80		80	.77		
	13	253	"	50									167.7
	14	254	"		60								169.3
	15	255	"					50					170.7
	17	257	"							50			171.3
	20	260	"								74		
	305	270	"								50		180.3
				✓				✓					

DATE	TIME	MIN	AMPS	482	466	462	462	392	375	319	450	bbl.	
6/28/09		Charge		148	(158)	160		243		(160)		270	
	PM 455	0	30	1215		1255		1325		1272		82	Temp.
	555	60	"	118		128		125		129		83	"
	655	120	"	112		118		121		126		277	"
	755	180	"	113		114		116		112		182	"
	855	240	"	105		110		112		112		662	"
	955	300	"	104		110		105		111		81	"
	1055	360	"	104		109		110		110		166	"
	1155	420	"	104		109		102		107		Dew	"
	1255	480	"	172	1200	1722	1723	1727	1692	1722	1705	94.7	
6/29/09	A.M.		Discharge										
	1200	0	40	142	1482	142	1417	1417	1387	1387	1387		
	.04	4	"	132	1332	1322	1327	1345	1323	1344	1327		
	.10	10	"	1297	131	1302	1302	1365	130	1302	1302		
	.20	20	"	1272	1282	128	128	1272	128	1277	1281		
	.40	40	"	1242	1252	1247	1242	1245	1245	1241	1241		
	1.00	60	"	122	1224	1222	1232	122	122	1232	1214		
	1.00	60	"	108		114		1132		114		Dew	Temp.
	.20	80	"	1205	1207	1207	122	120	1202	1197	119		
	.40	100	"	1192	1195	1195	1202	1182	1187	118	1172		
	1.00	120	"	1175	1182	1182	1175	1167	1172	1167	1157		
	1.00	120	"	1105		116		1157		1162		Dew	Temp.
	.20	140	"	1147	1172	117	118	1152	1150	1152	114		
	.40	160	"	1132	1147	1150	1165	1145	113		1132		

DATE	TIME	MIN	RATE	482	466	467	488	398	478	479	489	Temp. Well	
6/29/09	3:00 P.M.	180	40	1.10	1.125	1.122	1.147	1.11	1.09	1.097	1.095	87	Temp.
	3:00	180	"	1.127		1.185		1.172		1.177			133.3
	20	200	"	1.024	1.077	1.08	1.10	1.027	1.017	1.02	1.00		146.7
	1/4	220	"	1.012	1.062	1.067	1.085	1.012	1.00	1.015	.98		148.
	1/2	230	"						1.00				150.
	1/4	235	"	1.00				1.00					153.3
	.50	239	"	.975	1.027	1.02	1.00	.967	.945	.962	.945		156.3
	.47	239 1/2	"			1.00							156.7
	.55	238	"		1.00		.950						158.3
	.57 1/2	237 1/2	"										
	4:00	240	"	.93	.96	.907		.91	.825	.945	.927		
	7:00	240	"	1.15		1.222		1.21	.950	1.217		87	Temp.
	.06	240	"			.950							164.
	.06	240 1/2	"										164.3
	13	243	"	.950									167.7
	14	245	"		.950								169.3
	14 1/2	247 1/2	"					.950					169.7
	15	245 1/2	"							.950			170.3
	.20	260	"								.945		
	.30	270	"								.950		
	31 1/2	271 1/2	"								.950		181.
	34	272	"	1.217		1.215		1.245		1.277		87	

DATE	TIME	MINS	1172	482	466	467	468	478	477	480	Temp.	
											Delc	
6/29/09	P.M.	Charge		119	(127)	161	244		(161)			
	5:45	0	30	1125	126		128		127		86.7	Temp.
	5:45	60	"	114	120		122		1217		86.7	"
	6:45	120	"	109	1142		117		1162		86.7	"
	7:45	180	"	108	1117		113		1127		86.5	"
	8:45	240	"	108.5	109.5		110.2		1102		86.5	"
	9:45	300	"	102.5	108.5		109		109		86.7	"
	10:45	360	"	102.5	108.5		108.5		108.5		87	"
	11:45	420	"	103.2	109		109		109		87.5	"
	12:45	480	"	1.72	1.77	1.735	1.742	1.742	1.76	1.73	1.735	P.D.
				Discharge								
6/29/09	PM											
	12:00	0	40	1.42	1.44	1.43	1.43	1.43	1.40	1.40	1.40	
	:04	4	"	1.32	1.332	1.332	1.33	1.35	1.33	1.33	1.33	
	:10	10	"	1.30	1.312	1.312	1.317	1.32	1.31	1.307	1.31	
	:20	20	"	1.277	1.287	1.282	1.28	1.292	1.257	1.282	1.282	
	:40	40	"	1.242	1.25	1.25	1.252	1.252	1.247	1.245	1.245	
	1:00	60	"	122	1222	1222	123	132	122	1217	121	
	1:00	60	"	1015		112		119		113	88	Temp
	:20	80	"	1265	1265	1265	122	126	124	120	115	
	:40	100	"	1132	1132	1132	120	118	1182	1182	117	"
	2:00	120	"	118	1182	118	119	117	1172	1172	1157	
	2:00	120	"	113		117		117		119		Temp.
	:20	140	"	116	117	117	115	1155	1157	1157	1155	
	:40	160	"	1135	116	116	1162	114	112	113	111	

DATE	TIME	MIN	AMPS	457	466	467	468	378	178	479	480	Cell	
6/29/69	PM 300	150	40	110	114	1125	1125	111	110	110	107		
	300	150	"	114		120		119		120		90	Temp.
	20	200	"	106	111	112	1122	103	1057	1062	100		
	30	210	"	1032	1025	1035	111	106	1025	104	1005		
	32	212	"								100		— 141.3
	334	218½	"						1100				— 145.7
	40	220	"	1025	1022	107	103	1015	997	100	98		— 146.7
	42	222	"	100									— 148.
	44	224	"					100					— 149.3
	454	225½	"				100						— 153.
	50	230	"	915	103	1025	917	922	757	926	955		— 155.7
	535	233½	"			100							— 156.7
	55	235	"		100		50						— 157.3
	56	236	"										
	400	240	"	925	77	90		92	54	92	92		
			"										Temp.
	400	240	"	118		124		1225		124			— 163.
	04	244½	"			50 ✓			50				— 163.7
	054	245½	"										
	10	250	"	64	72			79		74	82		
			"	✓									
	11	251	"	50									— 167.3
	134	253½	"		50								— 169.
	14	254	"					50		50			— 169.3
	16	256	"								717		— 170.7
	20	260	"								50		— 178.7
	28	268	"		✓			✓					

Cell #398 was removed from this test and connected up on testing board for over charge tests. See results in individual record book 7/7/69

DATE	TIME	MIN	AMPS	462	466	462	462	478	478	468	Delta	
6/20/09			Charge	150		(160)	162		(	162)		
	PM 455	0	30	124		129				130	915	Comp.
	555	60	"	113		112				120	92	
	655	120	"	109		106				111	92	
	755	180	"	105		115				112	92	
	855	240	"	104		110				111	90	
	955	300	"	103		109				110	89	
	1055	360	"	102		108				109	89	
	1155	420	"	101		108				108	87	
	1255	480	"	173	176	177	173	179	173	177		Trickling
			Discharge									
6/20/09	PM 12:00	0	40	146	142	117	138	138	138	128		
	.04	4	"	135	132	133	132	132	132	132		
	.10	10	"	130	132	130	130	130	130	130		
	.20	20	"	127	128	128	128	128	127	128		
	.40	40	"	127	124	127	127	124	127	127		
	1.00	60	"	127	122	127	129	124	127	127		
	1.00	60	"	100		117				117	865	Comp.
	.20	80	"	120	120	120	125	127	124	127		
	.40	100	"	118	119	118	120	118	118	117		
	2.00	120	"	117	118	118	117	116	116	117		
	2.00	120	"	104		115				111	84	Comp.
	.20	140	"	115	117	116	115	114	114	115		
	.40	160	"	112	112	114	117	115	112	112		

DATE	TIME	MIN	MIN	482	466	467	468	472	479	480	Temp Bell	
6/30/07	A.M.	180	40	1.085	1.132	1.125	1.137	1.077	1.087	1.065		
	200	180	"	1.065		1.14				1.12	8.32	/ emf.
	.10	190	"	1.065	1.117	1.145	1.125	1.085	1.067	1.032		
	.20	200	"	1.04	1.10	1.097	1.112	1.027	1.044	1.01 / 1.00		— 135.3
	.23	203	"					1.00				— 139.
	.28½	208½	"									
	.30	210	"	1.012 / 1.00	1.08	1.027	1.072	.994	1.01 / 1.00	.984		— 142.7
	.34	214	"									
	½	220	"	.977	1.047	1.044	1.047 / 1.00	.96	.972	.947		— 146.7
	.9	229	"									— 151.3
	.50	230	"	.927	1.00 / 1.00	1.00	.90	.914	.935	.927		— 153.3
	.51	231	"									— 154.
	4½	231½	"				1.00					— 156.3
	1.00	240	"	.874	.927	.774		.672	.872	.89		
	1.00	240	"	1.037		1.012				1.07	8.3	Temp.
	1.03	243½	"				.60					— 162.3
	.04	244	"									— 162.7
	10	250	"	.80	.60		✓		.595	.797		— 166.7
	.12	252	"		.60	✓			.70			— 168.
	.13	252½	"									— 169.
	20	260	"		✓					.62		
	24	264	"							.40		— 176.7

DATE	TIME	MIN	MT	482	466	467	468	478	479	480	Odd
6/20/09	Charge			101		103	103		103		
	A.M.										
	4:00	0	30	1.09		117				117	82
	5:00	60	"	1.085		114				1.142	82
	6:00	120	"	1.037		110				1.102	82
	7:00	180	"	1.01		1.067				107	82
	8:00	240	"	98.7		1.04				1.04	81.7
	9:00	300	"	97.5		103.				103	81.5
	10:00	360	"	97.5		102.2				102.5	81.2
	11:00	420	"	98		103.				103	81.2
	11:05	420	"	1.75	1.79	1.752	1.762	1.73	1.76	1.76	
				Discharge							
	PM										
6/20/09	12:00	0	40	1.43	1.44	1.442	1.43	1.405	1.407	1.40	
	04	4	"	1.34	1.337	1.337	1.34	1.332	1.342	1.342	
	10	10	"	1.30	1.31	1.31	1.30	1.305	1.305	1.305	
	20	20	"	1.272	1.285	1.28	1.28	1.28	1.277	1.275	
	40	40	"	1.24	1.25	1.245	1.25	1.237	1.237	1.235	
	1.00	60	"	1.217	1.222	1.22	1.222	1.217	1.212	1.21	
	1.00	60	"	102.5		108			106.5		822
	20	80	"	1.202	1.205	1.205	1.212	1.197	1.197	1.192	
	40	100	"	1.185	1.192	1.19	1.202	1.18	1.177	1.16	
	2.00	120	"	1.17	1.182	1.18	1.192	1.17	1.165	1.15	
	20	120	"	105	116	110			109		827
	30	140	"	116	1.125	118	118	1.152	115	1.135	
	40	160	"	1.137	116	116	116	113	113	1.132	

Temp

Temp.

DATE	TIME	MIN	AMPS	482	466	467	468	478	477	480	Doll	
6/30/07	PM 3:00	180	90	110	114	1135	1145	109	116	1057		
	3:00	180	"	108		1127			115		85	Temp
	:20	200	"	1047	116	118	112	104	105	100		133.3
	36	210	"	102	108	103	110	1005	105	96		
	31	211						100				140.7
	34	214	"						100			142.7
	35	215		100								143.3
	40	220	"	985	105	1035	102	97	98	96		
	50	230	"	942	100	1022	100	935	937	92		153.3
	51	231			100	100						154.
	57	237	"				50					158.
	400	240	"	90	94	97		86	90	90		
	400	240	"	112		1175			104			Temp.
	05	245	"			50						163.3
	06	246	"				✓	50				164.3
	10	250	"	57	93				72	92		
	10½	250½	"	80								167.
	13	253	"		50	✓						168.7
	15	255	"						50			170
	20	260	"							64		
	25	265	"							50		176.7
					✓							

DATE	TIME	MIN	AMP	482	466	467	468	478	479	480	Volts	
	Voltage #			152	(162)	164		(	164)			
6/30/09	AM 455	0		111		122			121		865	Temp
	555	60		114		118			119		865	"
	655	120		109		114			115		87	"
	755	180		105		1125			1135		88	"
	855	240		106		111			112		88	"
	955	300		104		110			110		87	"
	1055	360		102		1025			1025		87	"
	1155	420		1012		108			1077		84	"
	1158	420		174	1777	174	1742	172	174	174		7th D. Reading
7/1/09	A.M.	Discharge										
	1200	0	40	1412	1427	142	1414	1372	1387	1.38		
	04	4	"	1322	1337	1334	1332	1.33	1339	1.332		
	10	10	"	130	131	131	1305	1304	1307	1307		
	20	20	"	1272	1285	1.28	1277	128	1277	1.28		
	40	40	"	124	1245	1247	124	1247	124	1.245		
	100	60	"	1217	1222	122	1227	1215	1215	1207		
	100	60	"	103		1092			109		82	Temp
	20	80	"	120	1202	120	1202	1197	1195	1185		
	40	100	"	1187	1192	1192	1202	1192	118	1147		
	200	120	"	117	118	118	1187	1167	1162	1147		
	200	120	"	103		1097			1095		81	Temp
	20	140	"	1145	1147	1147	1175	1145	1144	112		
	40	160	"	112	1152	1147	1147	112	112	1087		

DATE	TIME	MIN	HITS	482	466	467	468	478	479	480	abdl.	Tc	
7/1/09	A.M. 3.00	180	40	1.085	1.122	1.127	1.14	1.085	1.092	1.082			
	3.00	180	"	1.027		1.07			1.027		80		Temp.
	.10	190	"	1.062	1.117	1.115	1.127	1.06	1.07	1.025			
	.20	200	"	1.04	1.10	1.075	1.11	1.03	1.04	1.00			133.3
	.30	210	"	1.017	1.08	1.075	1.092	1.00	1.012	9.78			140.
	.33	213½	"	1.00					1.00				142.3
	.34	214	"										142.7
	.40	220	"	.977	1.055	1.04	1.065 1.00	.967	.977	.945			150.7
	.46	226	"										153.3
	.50	230	"	.935	1.00 1.00	1.00	.967 .950	.935	.934	.92			154.3
	.54½	234½	"										
	4.00	240	"	.897	.934	.867		.842	.87	.872			
	4.00	240	"	1.075		1.14			1.137		80		Temp.
	.04½	244½	"			.80							162.7
	.07½	247½	"				✓	.80					165.
	.10	250	"	.89	.64				.105	.81			
	.11½	251½	"	.80									167.7
	.14½	254½	"		.80				.80				169.7
	.16	256	"							.664			170.7
	.20	260	"										
										.80			178.
	27	267	"										
	27	267	"	1.107		1.187			1.162		797		Temp.
					✓	✓							

DATE	TIME	MINS	FITS	482	466	467	468	478	479	480	Odd Temp	
7/1/09	Change			1.03	(1.63)	1.64			(1.65)			
	AM											
	4:00	0	100	1.10		1.182			1.17		79	Temp.
	5:00	60	"	1.072		1.147			1.147		79	"
	6:00	120	"	1.01		1.072			1.082		78	"
	7:00	180	"	9.72		1.032			1.044		78.2	"
	8:00	240	"	9.67		1.027			1.03		79.5	"
	9:00	300	"	98		103			1.035		81.7	"
	10:00	360	"	99.7		1.037			104		83.5	"
	11:00	420	"	101		106			1.065		85	"
	11:05	425	"	1.74	1.765	1.75	1.76	1.72	1.752	1.752		J.D. Heading
				Discharge								
7/1/09	PM											
	12:00	0	40	1.42	1.44	1.437	1.42	1.40	1.405	1.40		
	04	4	"	1.32	1.332	1.332	1.33	1.33	1.33	1.33		
	10	10	"	1.302	1.312	1.312	1.31	1.31	1.31	1.31		
	20	20	"	1.272	1.272	1.277	1.277	1.277	1.275	1.272		
	40	40	"	1.24	1.25	1.247	1.25	1.24	1.24	1.237		
	1.00	60	"	1.222	1.222	1.222	1.23	1.22	1.217	1.21		
	1.00	60	"	1.16		1.18			1.105		86.7	Temp.
	20	80	"	1.202	1.205	1.205	1.212	1.20	1.16	1.165		
	40	100	"	1.192	1.195	1.185	1.205	1.19	1.18	1.17		
	2.00	120	"	1.12	1.182	1.182	1.192	1.18	1.17	1.165		
	2.00	120	"	1.09		1.12			1.13		83.3	Temp.
	20	140	"	1.16	1.162	1.162	1.17	1.157	1.155	1.157		
	40	160	"	1.14	1.15	1.15	1.167	1.14	1.137	1.11		

DATE	TIME	MIN	AMP	403	404	405	406	407	408	450	Volt.	
7/1/09	PM 300	156	40	111	1145	1145	1165	1165	111	1082		
	300	160	"	1165		114			115		885	Temp
	30	200	"	1057	1105	1165	112	1165	1155	160		
	37	207	"							100		138.
	30	210	"	105	108	108	110	112	1022	947		
	34	214	"					100				142.7
	34½	214½	"						100			144.3
	38½	218½	"	100								145.7
	40	220	"	991	1155	166	1075	982	99	965		
	49	229	"				100					152.7
	50	230	"	957	1005	161	93	942	947	937		
	54½	234½	"		100	100						153.7
	56	236	"	908			50					157.3
	400	240	"	865	926	895		84	90	91		
	400	240	"	116		121	✓		120		88	Temp
	04½	244½	"			50						163.
	44	246	"					50				164.
	49	249	"	50								166.
	10	250	"		62	✓			67	84		
	11	251	"		50							167.3
	13	253	"						50			168.7
	30	260	"		✓					66		
	34	264	"							50		176.

Cells 404, 498 were connected in Endurance Section after this discharge for 50 mins.

DATE	TIME	MIN	AMP	462	466	467	463	472	479	480	484	1182	Delta	
7/1/09	Charge #			154	(144)	122			(126)		180	130		
	PM 455	0	"	120		125			122		95	88	297	Temp
	555	60	"	1125		1215			121		100	99	905	"
	655	120	"	114		119			119		105	101	917	"
	755	180	"	111		116			116		107	105	927	"
	855	240	"	108		114			114		110	103	93	"
	955	300	"	107		112			1115		112	111	932	"
	1055	366	"	107		112			1109		114	112	93	"
	1155	426	"	107		113			113		1152	1120	793	"
	1155	426		1245	1245	1212	1212	1202	1222	1112	1252	1492		P. W.
7/2/09	Discharge													
	A.M.													
	1200	0	1/2	1305	1402	1284	1297	1287	1262	1362	1287	136		
	04	4	"	132	1332	133	1322	1322	1324	1327	1327	132		
	10	10	"	1292	1300	130	1292	1291	1297	130	1294	129		
	20	20	"	1272	1282	1278	1277	1274	1274	1278	1268	1272		
	40	40	"	124	125	1241	125	1242	124	124	1243	124		
	100	60	"	122	1222	122	1227	1217	1214	1214	122	1212		
	100	60	"	110		1122			116		120	1180	924	Temp
	20	80	"	1202	1205	1202	1215	1220	1197	1193	1205	1197		
	40	100	"	1182	1185	1192	120	1184	1182	1172	1192	118		
	200	120	"	1172	118	118	1187	117	1169	116	1182	1172		
	200	120	"	1122		1162			117		1237	122	965	Temp
	20	140	"	115	1167	1162	1172	115	115	1137	1172	1157		
	40	160	"	112	1155	1147	1157	112	1125	1127	1155	114		

DATE	TIME	TEMP	PRESS	482	466	467	468	478	479	480	404	488	TEMP	DATE
7/2/09	10.17 3.00	180	40	1.09	1.132	1.127	1.14	1.09	1.097	1.067	1.14	1.127		
	3.00	180	"	1.107		1.19			1.18		1.26	1.234	90	Temp.
	.10	190	"	1.072	1.12	1.112	1.127	1.067	1.08	1.047	1.128	1.114		
	.20	200	"	1.042	1.10	1.097	1.112	1.04	1.042	1.032	1.107	1.10		
	.30	210	"	1.02	1.082	1.082	1.097	1.04 / 1.00	1.027	1.002 / 1.00	1.09	1.084		
	32	213	"											142.
	36	216	"	1.00					1.00					144.
	38	218												145.3
	40	220	"	.99	1.062	1.04	1.06 / 1.00	.98	.992	.98	1.067	1.062		151.7
	42½	222½	"											152.3
	45	225	"	.982	1.042	1.00	.980	.94	.944	.944	1.047	1.03		155.3
	47.3	227.3	"		1.00									156.3
	49½	229½	"				.950					1.00		157.
	50½	230½	"									.747		
	4.00	240	"	.874	.924	.71		.742	.883	.914	1.012			
	4.00	240	"	1.124		1.227 / .950	✓		1.21		1.297 / 1.00	1.30	89	Temp.
	.02	243	"											162.
	.04	245	"					.950						163.3
	.07	247	"	.950										166
	.10	250	"		.66				.677	.874	.977	.724		
	11½	251½	"		.950	✓								167.7
	13½	253½	"						.950			.950		169.
	14½	254½	"											169.3
	.20	260	"							.69	.802			
	.26½	266½	"		✓					.950				177.7
	.30	270	"								.767			
	30½	270½	"								.950			183.7
											✓	✓		

Cells 466, 467, 468, were removed from this test and connected with on testing for overcharge tests. See results on individual record book 7/7/09.

DATE	TIME	MIN	MHT	482	478	479	480	404	488	Alda		
7/2/09		Charge		*164		*(167)		*181	*131			
	MHT											
	5:00	0	30	117		127		133	131	87.7	Temp	
	5:30	60	"	1132		120		128	126	86.5	"	
	6:00	120	"	1047		1132		121	118	84.7	"	
	7:00	180	"	1022		1097		118	116	84	"	
	8:00	240	"	1015		1072		114	112	84	"	
	9:00	300	"	100.5		1055		113.5	112	84.5	"	
	10:00	360	"	101.5		105		113.	111.5	84.7	"	
	11:00	420	"	101.		1055		113.	112.	85	"	
	11:45	420	"	1.72	1.717	1.732	1.707	1.717	1.715			T. D. Reading
				Discharge								
7/2/09	PM 12:00	0	40	141	1.40	1.405	1.39	1.39	1.377			
	04	4	"	1.32	1.325	1.33	1.33	1.33	1.317			
	10	10	"	1.29	1.30	1.30	1.30	1.302	1.30			
	20	20	"	1.28	1.282	1.282	1.287	1.285	1.28			
	40	40	"	1.24	1.237	1.24	1.24	1.242	1.232			
	1:00	60	"	1.222	1.22	1.22	1.215	1.22	1.215			
	1:00	60	"	104		110		117	115	86.5	Temp	
	1:20	80	"	120	120	1130	1132	120	119			
	40	100	"	119	1185	118	113	1182	1173			
	3:00	120	"	1.175	1.17	1.167	1.15	1.17	1.165			
	8:00	120	"	108.5		113.		121.	119.5	87.5	Temp	
	20	140	"	1.155	1.16	1.157	1.137	1.155	1.155			
	40	160	"	113	1.113	1.127	1.109	1.14	1.132			

DATE	TIME	MIN	AMPS	452	478	479	480	404	488	TEMP Adda	
7/2/09	PM 3.00	180	40	1.09	1.08	1.09	1.045	1.105	1.102		
	3.00	180	"	111		111		125	122	88	Temp.
	20	200	"	1042	163	104	1.005	107	1072		
	21	201	"				100				— 134.
	28½	208½	"		100						— 139.
	30	210	"	101	99½	1.005	98	104	1.097		
	31	211	"			100					— 140.7
	35½	215½	"	100							— 142.3
	40	220	"	92	96.5	96.5	95	100	1.012		— 146.7
	43	223	"						100		— 148.7
	50	230	"	937	92	92.5	91.7	95	945		
	4.00	240	"	78	54	82	82.5	81	837		
	4.00	240	"	115		120		130	127	88.6	Temp.
	.01	241	"		56						— 160.7
	.02	242	"						58		— 161.3
	04	244	"	56							— 163.
	08	248	"			56					— 165.3
	16	256	"				62	50			— 166.7
	19	259	"				50				— 169.3
								✓	✓		

DATE	TIME	MIN	AMPS	482	478	479	480	404	488	Volts	
7/2/09	Charge #			156		(168)		182	132		
	PM 555	0	30	119		1245		122	130	882	7 amp
	655	60	"	112		1165		125	133	90	"
	755	120	"	1115		1145		124	122	905	"
	855	180	"	109		114		121	120	907	"
	955	240	"	1045		110		118	117	90	"
	1055	300	"	102		108		116	115	89	"
	1155	360	"	102		1082		116	1147	89	"
7/2/09	9:07 1255	420	"	1022		1082		116	1145	882	"
	1255	420	"	1242	1242	1242	1212	1212	1212		P. 13
7/2/09	A.M.	Discharge									
	1.00	0	40	1407	1407	1400	1387	1387	1377		
	.04	4	"	132	1327	1330	1322	1322	1305		
	.10	10	"	130	1307	131	1312	131	1305		
	.20	20	"	1275	128	1282	1282	128	1275		
	40	40	"	124	124	1242	124	1242	1237		
	2.00	60	"	1217	1215	1215	1212	1217	1211		
	2.00	60	"	1055		1145		1192	1177	872	7 amp.
	.20	80	"	1202	120	1197	1192	120	1195		
	40	100	"	1192	1185	1182	1172	1187	1177		
	3.00	120	"	1175	117	1167	1165	1175	1162		
	3.00	120	"	1025		1117		121	1182	842	1 amp.
	.20	140	"	1182	1145	1145	1127	1147	1144		
	40	160	"	1127	1127	1127	1087	114	1127		

Section was not put on @ 4.55 PM by mistake but went on @ 5.55 PM and will charge 7 hrs until 12.55 AM 7/3/09

DATE	TIME	MIN	PHT	482	478	479	480	404	488	Delta	
	AM										
7/2/09	4.00	.80	40	.092	.074	.073	.06	.117	.104		
	4.00	.80	"	.024		.111		.127	.118	.082	Temp
	.10	.90	"	.067	.064	.074	.038	.097	.084		
	.20	200	"	.047	.044	.087	.017	.085	.077		— 138.7
	.28	208					.100				
	.30	210	"	.017	.015	.024	.994	.057	.052		— 144.
	.36	216	"		.600						— 144.7
	.37	217	"	.100							— 145.7
	.38½	218½	"			.100					
	.42	222	"	.98	.977	.987	.967	.102	.102		— 151.3
	.47	227	"					.100	.100		
	.50	230	"	.94	.94	.942	.937	.974	.974		
	5.00	240	"	.877	.845	.894	.89	.884	.862		
	5.00	240	"	.022		.127		.122	.118	.080	Temp
	.08	248	"		.050						— 165.3
	.09	249	"						.050		— 166.
	.10	250	"	.617		.742	.77	.614			
	.11½	251½	"	.40				.050			— 167.7
	.15½	255	"			.050					— 170.
	.20	260	"				.032				
	.20½	260½	"				.050				— 173.7
								✓	✓		

DATE	TIME	MIN	AMPS	482	478	479	480	484	486	Volts	
7/2/09				(167)		(169)		183	133		
	A.M. 6 30	0	20	105		116.2		120	123.2	197	Temp.
	630	60	"	102		112		122	117	192	"
	730	120	"	100		109.7		117.5	113.7	195	"
	830	180	"	96		105		115	109.2	80	"
	930	240	"	96		101.5		110.	108.5	505	"
	1030	300	"	95		100		108	107	50	"
	1130	360	"	96		100.5		107	102.5	80	"
	P.M. 1230	420	"	101		101		108	107	805	"
	1230	420	"	126.7	124	126		124	114	1235	T. D. Bradley

Stood idle 59½ hrs over Saturday
Sunday & Monday charged.
Discharge

7/6

	A.M.										
	12.00	0	40	127	127	126.5	125	123.5	123.7		
	12.10	0		123		127		122.5	122	82	Temp
	.04	4	"	122.5	123	122.2	122.5	121	120		
	.10	10	"	121.5	121	120.5	120	119.7	119		
	.20	20	"	119.7	119.5	119.5	119.7	119.5	119		
	.40	40	"	118.2	117.7	117	117.7	116	115		
	1.00	60	"	117	116	115	113.5	114.2	113.5		
	1.00	60	"	90.7		92		90.7	90.5	80.7	Temp
	.20	80	"	116	115	114.2	116.7	113.7	112		
	.40	100	"	114.2	113.7	113	119	112.2	111		
	2.00	120	"	112	111.7	111.5	115	111	109.5		

DATE	TIME	[illegible]	[illegible]	482	488	479	488	404	448	10-5
7/1/-1	2:00	1:00	42	94		97	103	95.5	97	72.5
	:10	1:30					100			
	:20	1:45	"	109	108.5	108.5	101	109	107	
	:25	1:45	"				100			
	:30	1:50	"	107	107	107.5	95.5	105.5	106	
	:40	1:50	"	107.7	105	105.7	97	106.5	108.2	
	:45	1:50	"	105	105	105	95.5	104	105	
	:50	1:50	"		100				105	
	:55	1:50	"	100		100				
2:00		1:50	"	99.7	97.2	99	92	101	98	
2:00		1:50	"	99		102.5		105	103	72.5
	:05	1:50	"					100		
	:10	1:50	"	96	95.5	95.5	87.7	97.7	99	
	:20	1:50	"	92	92	93.2	81.2	92.2	97	
	:30	1:50	"	88	87.5	89	81	87	88	
	:40	1:50	"	81	79	81.7	74	78.2	78.5	
	:45	1:50	"			50				
	:50	1:50	"	50		60.5	62	50	50	
	:55	1:50	"			50	50			
	:25	1:50	"	105		108		116	107.7	8
					✓	✓	✓	✓	✓	

Temp

- 96.7

- 116.3
- 118.7

Temp
- 128.3

- 152.3
- 153.3
- 157.

Temp

DATE	TIME	MOON	AIR %	472	474	479	480	484	481	486	
7/1/09	[illegible]	[illegible]	"	158		170		184	134		
	4:[illegible]	[illegible]	30	[illegible]		[illegible]		[illegible]	[illegible]	[illegible]	Temp
	[illegible]	[illegible]	"	103		105		[illegible]	[illegible]	[illegible]	"
	6:[illegible]	[illegible]	"	98.5		102.5		110.2	107	78.5	"
	7:[illegible]	[illegible]	"	96.4		101		108.4	107	78.5	"
	[illegible]	[illegible]	"	94.7		98.7		107	105.2	78	"
	9:[illegible]	[illegible]	"	95		99.2		107	105.2	79	"
	10:[illegible]	[illegible]	"	96.2		99.7		107	105.8	80	"
	11:[illegible]	[illegible]	"	96		100		107.7	105.2	80.7	"
	12:[illegible]	[illegible]	"	126	122	128	126	126	122		P. W.
7/4/09	Tem.		Decline								
	12:00	0	50	143	143	143	142.5	141.7	140		
	.04	4	"	132	132.2	132	132	132	132		
	.10	10	"	129.4	130	130.2	130.7	130.7	130.2		
	.20	20	"	127.2	128	128	128	128	127.5		
	.40	40	"	127	127	127	127	127.2	127		
	1.00	60	"	121.5	121	121.2	121	121.2	121		
	1.00	60	"	99.5		100.5		111	107	81.7	
	20	80	"	119.7	119	119	118.5	119.2	118.7		
	40	100	"	118.2	118	118	117.2	118.2	117		
	2.00	120	"	117.2	117	117	116.7	117	116.7		
	2.00	120	"	101.2		102.5		107.5	105.8	82.2	
	20	140	"	116.2	115	114.5	114.2	113.7	113.5		
	40	160	"	112.2	112	112.2	110	112.7	111.7		

DATE	TIME MIN	AMPS	482	478	479	480	484	488	Bdle	
7/6/07	3.00 180	4/0	1.047	1.047	1.10	1.022	1.012	1.022		
	3.00 180	"	1.027		110		1.025	1.022	1.020	Temp
	.20 200	"	1.017	1.052	1.06	1.022	1.012	1.025		142.7
	.34 214	"				1.00				
	.34 214	"	1.002	1.005	1.015	.992	1.027	1.027		
	34 214	"	1.00							143.7
	36 216	"		1.00	1.00					144.
	39 219	"								146.3
	40 220	"	.98	.982	.992	.972	1.005	1.007		
	41 221	"					1.00			147.3
	.42 222	"						1.00		148.
	.50 230	"	.947	.947	.947	.947	.942	.97		
	4.00 240	"	.962	.90	.92	.922	.905	.92		
	4.00 240	"	1.04		113		121	1.125		Temp
	.10 250	"	.75	.58	.80	.78	.76	.79		
	.11 251	"		50						167.3
	.12 252	"	.50							169.
	.13 253	"					.50			170.3
	.14 254	"						.50		170.7
	.30 270	"			.11	.71				
	27½ 267½				.80					175.7
	.30 270					.99				
	.32 272			✓		.80				181.3
					✓	✓	✓	✓		

DATE	TIME	MIN	AMPS	482	475	479	480	404	488	Bell	
				169		171		186	184		
7/6/09	P.M. Charge										
	4:00	0	50	104		114		128	126	82	Temp.
	5:00	60	"	104		122		122	118	81.2	"
	6:00	120	"	94		106		116	113	80	"
	7:00	180	"	91		103		112	116	75.5	"
	8:00	240	"	93		101.5		111	109	79	"
	9:00	300	"	93.5		99		107	112	79	"
	10:00	360	"	93		99		106	106	78	"
	11:00	420	"	94		100		105	106.2	78	"
	12:00	480	"	177	176.5	179	176.5	176.2	175.7		P.D.
				Discharge							
7/7	AM										
	12:00	0	40	142	142	142.2	137.7	141	139		
	.04	4	"	131.7	132	133	133	133	132.4		
	.10	10	"	130	130.5	131	131	131	131.5		
	.20	20	"	127	128	128	128	128	128		
	.40	40	"	127.7	127	127	127	127	127.7		
	1.00	60	"	121.5	121.5	121	121	121.5	121		
	1.00	60	"	97.2		107		107	107.7	77.7	Temp.
	.20	80	"	120	119.7	119.5	119	119	119.7	119	
	.40	100	"	119	118.5	118.2	117.7	118.5	117.7		
	2.00	120	"	117.7	117	117	116	117	116		
	2.00	120	"	100		105		113.5	112.5	78	Temp.
	.20	140	"	115.7	115.7	115	113.7	115.5	113.2		
	.40	160	"	113	113	113	113	113	112		

DATE	TIME	MIN	AMPS	482	478	479	480	404	488	Jell
7/7/09	AM 3.00	180	40	109.7	110.2	110	107	111	110	
	3.00	180	"	109.2		109.2		112.5	105.5	
	.2	200	"	104	105	104	100	105.5	105.5	
	.29	209	"				100			
	.3	210	"	101.7	102.5	102.2	99	102	102	
	.37	217	"	101						
	.38	218	"			100	100			
	.39	219	"	98.5	99	99	98	101	101	
	.40	220	"					100		
	.41	221	"	95	95.5	95.5	97.7	97	100	
	.50	230	"					97	97	
	4.00	240	"	91	91	91	91.5	88	91.5	
	4.00	240	"	108.5		108.2		125.5	121	60
	.10	250	"	75	58	84	82	60	76	
	.15	255	"		50					
	.16	256	"					60		
	.22	262	"	50		71.7	60		52	
	.20	260	"						50	
	.26	266	"		50					
	.27	267	"				67.7			
	.33	273	"				50			
	.33	273	"		✓	✓		129	123.7	60
							✓			

Temp

— 139.3

— 145.

— 145.7

— 147.7

Temp

— 170.

— 170.7

— 173.3

— 173.7

— 176.7

— 182.3

Temp

DATE	TIME	MIN	AMPS	472	472	473	470	404	484	DEG	
7/7/09		Charge		110	(172)			181	132		
	4.55 AM	0	30	110		116.7		122	124.5	80.5	Temp.
	5.25	60	"	106.7		112.7		122.7	122	80.5	"
	6.55	120	"	102.7		109		122.7	112	80.5	"
	7.55	180	"	96.7		105.7		115.5	114	80	"
	8.55	240	"	96.7		102.5		111.7	110.7	79.5	"
	9.55	300	"	94.7		100.7		109.7	108.7	79.2	"
	10.55	360	"	92.5		100.2		109	108	79.5	"
	11.55	420	"	96.7		101.5		109	108	79.5	"
	11.55	420	"	162	176	178.5	172	174.5	174.7		T.D.
7/7/09		Discharge									
	Tm.										
	12.00	0	40	140	140	140	139	132	128.2		
	.04	4	"	132	132.7	133	133.5	132	132.7		
	.10	10	"	130	130.5	130.7	131.2	131	130.7		
	.20	20	"	127.5	128	128	128.2	128	127.7		
	.40	40	"	124	124.2	124.2	124.2	124.2	123.7		
	1.00	60	"	121.5	121.5	121.5	121.2	121.5	120.7		
	1.00	60	"	180		164		110	111	80	
	.20	80	"	120.2	120	119.7	119.7	119.5	118.7		
	.40	100	"	119.7	118.7	118.2	117.7	118.2	117.2		
	2.00	120	"	117.7	117.2	117	116.7	116.5	116.5		
	2.00	120	"	103		102		117.7	117.7	79.7	
	.24	144	"	115.5	115.5	115.2	115.2	115.2	115.7		
	.40	160	"	113.5	113.7	113.5	113.5	113.2	113.2		

DATE	TIME	MIN	AMPS	482	478	479	480	407	488	IDLE	
	PM.										
7/7/09	3.00	180	4/0	1.07	1.02	1.10	1.07	1.10	1.09		
	3.00	180	"	104.5		108.		117.7	1.16	80.5	Temp.
	.20	200		1.05	1.02	1.06	1.022	1.062	1.044		
	.27	207	"				1.00				— 139.3
	.30	210	"	1.02	1.024	1.03	9.97	1.032	1.03		
	.38	218½						1.00			— 145.7
	.39	219	"	1.00		1.00			1.00		— 146.
	.40	220	"	.994	1.00	.99	972	992	.994		— 146.7
	.50	230	"	.96	.962	.944	.947	.942	.940		
	4.00	240	"	.912	.907	.91	.912	.86	.877		
	4.00	240	"	1.08		1.12		1.222	1.192	80.7	Temp.
	.10	250		.672	.62	.822	.842	.554	.686		
	.15	255						.550			— 167.3
	.15½	255½	"	.550	.550				.550		— 168.3
	.17	257									— 169.3
	.20	260				.552	.682				— 173.7
	.30	270½				.550					— 178.7
	.28	268	"	1.12	✓	1.17	.550	1.30	1.247	80.7	Temp.
						✓	✓				

Cells 551, 552, 568, 569 were connected in Endurance Section after this discharge for 75 runs.

DATE	TIME	MIN	AMPS	482	551	552	568	569	478	479	480	404	487	TEMP Jodie	
	Charge		#	161	(71)		(71)			(173)		187	137		
7/7/09	PM 4.55	0	30	111.5	80.7		80.7			107.2		129.5	125.7	81.	Temp
	5.55	60	"	109	87		81			115		124	122	81.5	"
	6.55	120	"	105	92		92			111		121	119	82	"
	7.55	180	"	102	94		95			107		112	116	82	"
	8.55	240	"	100	96		97			107		115	115	82	"
	9.55	300	"	100	97		98			105		110	113	82	"
	10.55	360	"	98.5	98.5		99			107		112	111	81.5	"
	11.55	420	"	97.5	99.5		100			102.7		111.5	110.5	80.5	"
	11.55	420	"	171	172.5	172	172.2	172.4	172.2	172	172.5	172.5	172		P. 10
			Discharge												
7/8	AM 12.00	0	40	142	142	142	142	142	142	141		140	140	139.2	
	.04	4	"	132	133	132.5	133	133	133	132		132.5	132	132.5	
	.10	10	"	130	130.5	130.2	130.5	130.5	131	130.2		131	130.5	132.2	
	.20	20	"	127.5	128	127.5	128	128	128	128		128	128	128	
	.40	40	"	127	127.5	127.2	127.2	128	127.5	127		127	127	127.7	
	1.00	60	"	122	123	122.5	123	123	122.2	122		121.7	122.7	124	
	1.00	60	"	101.5	103.5		104			106			112	113	80 Temp
	.20	80	"	120.5	121	121	121	121.5	121.5	120		119.7	119.7	119	
	.40	100	"	119.5	120	119.7	120	120.7	119.5	119.2		118	118	117.7	
	2.00	120	"	118	119	118.5	119	119.5	118	117.5		116	117	115.7	
	2.00	120	"	122	105		106			117			116	115	79.2 Temp
	.20	140	"	116	117	116.5	117.5	118	116	115.7		118	115	114	
	.40	160	"	114	115.7	115	116	116	114.2	113.7		111	113	112	

DATE	TIME	MIN	AMPS	482	551	552	568	567	478	479	480	484	458	TEMP Other	
7/8/09	2:00	120	40	110.5	114	112	113.7	114.5	111.7	110.5	113.7	112.2	109		
	2:00	180	"	113.7	112		107.7			108	113.7	112	107.7	76.7	Temp
	.20	190	"								113.7		107.7		
	.20	200	"	106	111.5	112	111	112	107.7	106.2	113.7	106	105.7		
	.25	215	"	102	110	108.2	107	106.2	104.5	103	108	108.2			— 140
	.30	230	"	100.7	108.5	106.5	107.5	103	102	100	95	103	103		— 146.7
	.40	240	"	100											
	.45	245	"						100						— 151.
	.50	250	"	96.2	102.2	104	104.5	103	97	96	95	99.2	95.7		
	.55	255	"			100	100								— 159.
	2:55	255	"	94.5	102	97	99	104	102	91	91	84	89		
	4:00	240	"	110.5	110		111.5			111.7		112.2	112.2	76.5	Temp
	.05	245	"		100										— 165.7
	.10	250	"	82.5	92	81.5	80	100	71.2	84	63	53	66		— 166.7
	.15	255	"						50						— 169.3
	.20	260	"			50	50						53		— 169.7
	.25	265	"												— 170.
	.25	265	"	50											— 170.3
	.30	270	"		82.2			80		54	7				
	7/8/09	270	"			✓			50	50					— 174.3
	7/8/09	270	"					50							— 176.3
	7/8/09	270	"		50										— 178.3
	7/8/09	270	"								63				— 179.7
	7/8/09	270	"	110.7	114.5		114			110.7		120.5	123	76.2	Temp
					✓		✓	✓	✓	✓	✓				

Calls 478, 479, 480 were removed from this test and connected up on starting board for overcharge tests. See results in individual record book. 7/12/09.

DATE	TIME	MIN	AMPS.	492	551	552	568	569	404	488	TEMP	
7/8/09	no charge			102	(52)		(72)		184	134		
	4.55	0	20	1.105	112.2		112		125	122.7	78	Temp.
	5.55	60	"	106.2	109.5		107.7		119.5	119.5	77.5	"
	6.55	120	"	105	109.7		105		113.5	114	77.5	"
	7.55	180	"	98.7	1.017		1.027		1.072	112	77.7	"
	8.55	240	"	98	1.006		1.012		1.067	109	78	"
	9.55	300	"	97.7	100.		101		1.004	1.027	78.7	"
	10.55	360	"	97.5	101.		102.		107.	1.027	80	"
	11.55	420	"	1.007	1.027		104		1.072	1.088	80	"
	11.55	420	"	1.72	1.72	1.72	1.732	1.737	1.77	1.762		P.D.
7/8/09	Pm.		Discharge									
	12.00	0	40	1.42	1.42	1.415	1.407	1.40	1.37	1.387		
	.04	4	"	1.335	1.332	1.325	1.327	1.327	1.332	1.33		
	.10	10	"	1.305	1.307	1.305	1.307	1.307	1.31	1.31		
	.20	20	"	1.28	1.282	1.28	1.282	1.28	1.28	1.28		
	.42	42	"	1.24	1.24	1.24	1.242	1.24	1.24	1.237		
	1.00	60	"	122	1.225	1.222	1.225	1.227	121	121		
	1.00	60	"	105.5	108.5		108.		111.	112.5	82.	Temp.
	.20	80	"	121	121	1.212	1.212	1.207	1.194	119		
	.42	102	"	120	120	1.197	120	120	118	117		
	2.00	120	"	1.182	1.185	118	1.185	1.185	116.7	116		
	2.00	120	"	1.115	109		111		114	115		
	.20	140	"	1.162	1.17	116	117	117	114	117		
	.40	160	"	1.14	1.147	1.142	1.142	1.142	1.13	1.17		

DATE	TIME	CHIN	ARTS	482	481	482	468	467	404	488	Temp
7/8/09	AM. 3.00	180	4.	1116	1125	112	1135	1105	110	109	
	3.0	180	"	111	114		1145		1115	118	8: Temp
	.20	200	"	1072	111	1085	1105	111	105	1057	
	30	210	"	1041	1085	1025	1082	169	1017 / 100	102	— 143.3
	35	215	"							100	— 144.3
	36½	216½	"								
	40	220	"	107	1085	1125	106	107	97	985	— 148.7
	43½	2235	"	100							
	50	220	"	98	105	100	102 / 100	105	92	95	— 153.3
	59	234	"								— 156.
	400	240	"	826	1005	86	90	100	80	88	— 160.
	400	240	"	115	110 / 100		121		125	123	Temp
	08½	240½	"								— 160.3
	16½	2464	"			50	50				— 164.3
	170	250	"	125	90			84	50	66 / 50	— 166.7
	12½	2525	"								— 169.3
	13½	2532	"	50							— 168.7
	16	2562	"					50			— 170.7
	17½	2585	"		50						— 173.
						✓	✓	✓			
					✓						

DATE	TIME	MIN	AMPS	462	551	552	562	569	409	484	Dell	
7/8/09	Charge #			103	(13)		(13)		129	139		
	PM 455	0		118.5	120		121		126	122	86	Temp
	555	60		115	116.5		118.5		123	124	87.2	
	655	120		111	113.5		114		117	121	88	
	755	180		108	111		112.5		112	119	88	
	855	240		106	109		111		113	116	88	
	955	300		103	107		109		111	114	87	
	1055	360		102	106		108		109	112.5	86	
	1155	420		101.5	105.2		107		109	111.5	89.5	
	1155	420		176	174	172	173	173.5	177.7	175		G. D.
			Discharge									
7/9	AM 12:00	0	40	143	143.5	142.2	141	141	145.5	139.7		
	:04	4	"	133	133	132.5	132.5	132.5	133.5	133		
	:10	10	"	131	131	130.7	131	131	131.5	130.5		
	:20	20	"	128	128	127.7	128	128	128	128		
	:30	40	"	125.5	125.7	125	125.5	125.5	125	125		
	1:00	60	"	122.2	122.5	122.2	123	122.5	122.5	122.5		
	1:00	60	"	114	110.2		109.7		111	114	83	Temp
	:20	80	"	121	121	121.2	121.5	125	119.7	119.5		
	:40	100	"	122.2	124	119.7	120.5	120.5	118.5	117.5		
	2:00	120	"	118.5	118.5	118	118.7	118.7	117.2	117		
	2:00	120	"	115	110		111.2		112.7	111	82	Temp
	:20	140	"	117	117	116	117.5	117.5	116	115		
	:40	160	"	115	115.5	114	115.7	116	113.7	112.2		

DATE	TIME	MIN	AMPS	442	551	552	564	564	404	44	12.6	
	AM											
7/9/79	3.00	160	40	112	113.5	112	113.5	114	111	110		
	3.20	160	"	105.5	110.5		111.5		113	116	81	
	.20	200	"	107.7	113.5	112.7	113	111	107	106		
	.30	210	"	109	108.2	109.7	107.7	108.4	112	112.2		
	.40	220	"	112	117	113	105.7	107.2	120	120		
	.47½	227½	"			120						
	.50½	230½	"	100								
	.57	237	"	98	104	92	101	105	95.5	92.5		
	.58	238	"				100					
	.59	239	"		100							
	4.00	240	"	92.7	99	89	96.5	100	87.2	89.5		
	4.00	240	"	106.5	112		114		105	112.5	77	
	.02	242	"			50						
	.02½	242½	"					50				
	.17	257	"	82	83				78.2	62.7		
	.15	255	"						50			
	.14½	254½	"					50				
	.15	255	"							50		
	.16	256	"	50								
	.17	257	"		50							
	.17	257	"	109	114.5		119		112.5	112.7	77	
					✓	✓	✓	✓				

-7.....6

- 146.7
- 149.7
- 151.
- 154.7
- 158.7
- 160.

7.....6

- 161.3
- 162.3
- 168.7
- 169.7
- 170.
- 170.7
- 171.3

DATE	TIME	MIN	AMB	482	551	552	562	569	414	484	DIE	
7/9/09			Change	124	(74)		(74)		190	140		
	4.55	0	30	102.7	110.2		112.5		114.7	115.2	75	Temp.
	5.55	60	"	101	104.5		110.		111.2	113	75	"
	6.55	120	"	99.5	112.		103.7		105.2	111.2	77.5	"
	7.55	180	"	96	100		102.7		105.4	108	77.5	"
	8.55	240	"	94	98.4		100.2		103	106	77.7	"
	9.55	300	"	94	97.2		99.		102.	104.5	77.5	"
	10.55	360	"	94	98		100		102.7	104.4	77.7	"
	11.55	420	"	96.5	98.4		101		104.4	103.7	78.5	"
	11.55	420	"	178	196	173.7	124	127.7	179.2	177.2		T.B.
7/9/09			Diuretic Change									
	12.00	0	40	143	143.2	142	142.2	141.7	142	141.2		
	.04	4	"	133	133.2	133	133.3	133	133.7	133.4		
	.10	10	"	130.2	131	130.2	130.7	130.4	131	131		
	.20	20	"	128	128.7	128.2	128.4	128.2	128.4	128.4		
	.40	40	"	126.7	126.2	126	126	126	126	126		
	1.00	60	"	123.5	123	122.7	123.5	122.5	122.7	121.5		
	1.00	60	"	116.5	118.5		116		118	116	79.7	Temp
	.20	80	"	121	121.2	121	121.2	121	119.7	119.2		
	.40	100	"	119.7	120	119.5	120	120	119.5	119.7		
	2.00	120	"	119.5	118.7	118	118.7	119.7	117	116		
	2.00	120	"	104	108.		108.2		110	113.	81.	Temp
	.20	140	"	115.5	117	116	115.5	115.5	115.5	114		
	.40	160	"	114.2	115.5	114	115.5	115.5	115.5	112		

DATE	TIME	MIN	AMP	462	551	552	564	529	407	408	Dil	
	PM											
1/2/09	300	180	90	1115	1135	117	1135	1132	1165	109		
	300	180	"	1065	111		1115		1135	116	812	Temp
	30	200	"	167	1105	162	110	1102	166	105		
	30	210	"	154	159	166	1082	1053	1025	1022		
	30	216	"						100			— 144.
	34	216								100		— 144.3
	40	220	"	1612	157			1057	98	99		
	42½	220½	"	1002								— 148.3
	45	225				100						— 150.
	50	230	"	977	1000	957	1.70	1141	935	955		— 153.3
	58½	238½			100			100				— 159.
	400	240	"	927	957	99	70	955	55	90		
	402	240	"	109	114	50	116		107	117	812	Temp
	02	242	"				50					— 161.3
	10	250	"	18	87			81	62	257		
	17	257	"						50			— 168.
	32	252½	"	50								— 169.
	14½	254½	"					50				— 169.7
	15	255	"							50		— 170.
	18	256	"		50							— 172.
						V	V	V				
					V							

DATE	TIME	MIN.	AMPS	482	551	552	566	569	404	488	Remarks
7/7/09			Charge	165	(75)		(75)	171	141		
	P.M. 455	0	30	111	115		116	120	121		Temp
	555	60	"	1087	1087		109	1105	1165	80	"
	655	120	"	101	104		1045	110	112	78	"
	755	180	"	95.5	101		102	107	109	77	"
	855	240	"	95	99		100	104	107	77	"
	955	300	"	94	98		99	103	105	75	"
	1055	360	"	94.5	98		99	103	105		"
	1155	420	"	95	96.5		99.2	102.2	105	75	"
	1155	420		174	177	174.2	176.5	177	160	175	P. 10
				Discharge							
7/10	A.M. 12.00	0	40	144	141	143	142	142	141	140	
	.05	5	"	133	133.7	133	133	133	134	134	
	.10	10	"	131	131.7	131	131.5	131	131.7	131.7	
	.20	20	"	128	128.2	128	128	128	128	128	
	.40	40	"	125	125.5	125	125.5	125.5	125	125	
	1.00	60	"	123	123.5	123	123.5	123	123	122	
	1.00	60	"	98.5	104.7		103		105.7	105.2	75 Temp
	1.20	80	"	121.5	121.7	121.7	122	121.7	121	120	
	1.40	100	"	120.2	120.2	120	121	120.5	119	118.2	
	2.00	120	"	119	119	118.5	119.5	119	117.7	116.5	
	2.00	120	"	100	103.5				107	110	Temp
	1.20	140	"	117	117.5	116.5	117	117	116	115	
	1.40	160	"	115.5	116	115	116.2	116.2	114.5	113.5	

DATE	TIME	MIN.	AMPS	462	551	607	568	564	404	488	[illegible]
7/[illegible]	3.00	1.00	40	112	114	112.2	114	114	112	112.5	
	3.00	1.00	"	112	125.5		106.5		109	111.75	
	1.00	2.00	"	108.2	110.7	109.7	111	111.7	108	109	
	1.00	2.00	"	112.2	109	115	117	108	111	111	
	1.00	1.75	"						110	110	
	1.50	1.50	"	110	108.2	110.5	114.5	112	112.5	98	
	1.50	1.50	"			108					
4.00	1.00	1.75	"	95	112	92	97	112.5	90	92	
	4.00	1.40	"	104.5	109		112.5		112.5	115.75	
	1.00	1.40	"		103			100			
	1.00	1.00	"	92.2	99.4	102.5	107	98	83	102.5	
	1.00	2.00	"			50					
	1.00	1.75	"				50				
	2.00	2.00	"	69	84			77	50	107	
	2.00	2.00	"	50	-						
	1.00	1.00	"					50		50	
	1.00	1.00	"		50						
	2.00	1.00	"	109	112		112.5		118	112.5	
					✓	✓	✓	✓			

— 150.
— 153.3
— 157.
— 160.
— 165.3
— 168.
— 168.3
— 173.3
— 175.7
— 176.7
— 179.7

DATE	TIME	MIN	AMPS	482	551	557	562	569	404	461	
			Charge	112	(76)	(76)		112	142		
7/10/09	AM 455	0	30	108	110	1105		119	120	71	Temp
	555	60	"	"	1055	107		"	117	72	"
	655	120	"	"	112	104		"	113	73	"
	755	180	"	94	102	1035		104	107	74	"
	855	240	"	92	96	96		101	103	73	"
	955	300	"	94	94.2	94.7		98.4	102	74	"
	1055	360	"	94.2	94.7	94		99.2	101.2	74	"
	1155	420	"	1182	1175	1192	177	180	1182		CP W
	1155	420	"	92	96	107		100	102	73	Temp

Stood idle 36 hours over Saturday & Sunday charged.

Discharge

DATE	TIME	MIN	AMPS	482	551	557	562	569	404	461	
7/12/09	AM 12.00	0	40	133	127	128	128	127.7	128	127	
	1200	0	"	84	84		87		87	87	83 Temp
	04	4	"	124.2	123.7	123	123	123.5	123.7	124	
	.10	10	"	123	122.2	122	122.2	122.5	122	121	
	.20	20	"	121.7	120.5	120	121	120.5	120	119.7	
	40	40	"	120	119.7	119	119.7	119.7	118	117.7	
	1.00	60	"	119	118.5	118	118.5	118.5	117	116	
	1.00	60	"	92.2	92.7		92		92.7	93	82
	.20	80	"	118	117.7	117	118	118	116	117.5	
	.40	100	"	117	116.2	115.7	117	117	115	115.5	

DATE	TIME	MIN	DATA	482	551	552	564	569	404	485	12	
7/12/77	2.00	120	45	115	114.5	103	115	115	103	111.5		
	2.00	120	"	97	99.5		101		99	101	75	Jump
	120	140	"	113	113.5	112	113	114	111.5	109.7		
	.40	160	"	109	113.5	109	111	111	109.2	105.5		
	.50	170	"							105.5		
3	.00	180	"	105.5	115	106	108	108	104	101		
	3.00	180	"	102	104.5		105.2		105	103.2	45	
	.20	185	"							100		
	.30	190	"	103	110	104.5	106.7	107	101	95		
	.37½	192½	"						100			129.
	.45	195½	"									133.3
	.50	200½	"	100	105.9	102	104	105.5	96.2	94.2		137.7
	.55	210	"			100						
	.58	212	"	96	102.5	97.5	100.5	103	94.7	92		
							100					
	.65	220	"	96.5	100	97	90	100	85.5	88.2		141.3
	.67	225	"			50						146.7
	.67½	227½	"									150.
	.70	230	"	84	90		50		50	50		151.3
	.70½	232½	"									153.3
	.75	237	"					50				159.3
4	.00	240	"	50	64					50		160.
	.01	241	"							50		160.7
	.01	241	"	107	112.5		112		112	115	80	
	.03	243	"		50							162.
				✓								

DATE	TIME	MIN.	MAX.	482	551	552	551	552	6.42	542	[illegible]
7/17/71		Discharge		1.17	(77)		(77)		1.93	1.42	
	[illegible]	0	20	104.5	104.5		106		111	110	79
	[illegible]	60	"	102.5	102				109	109.7	79
	[illegible]	120	"	100.7	101.2				107.7	108.5	77
	7 [illegible]	[illegible]	"	98.2	100				106	108	77
	6:[illegible]	240	"	96	99				103	105.5	75
	9:25	300	"	96	98.5				103	105	105
	10:[illegible]	360	"	96	98.5				103	105	81
	11:[illegible]	[illegible]	"	97.5	100.5				104	106	81
	12:[illegible]	[illegible]	"	1.745	1.74	1.72	1.725	1.725	1.765	1.745	
7/12/09	PM 12:00	0	40	143	1432	1422	142		1415	142	1412
	.04	4	"	1.322	133	1327	133	133	1333	1332	
	.10	10	"	1.362	131	1335	1307	131	131	131	
	.20	20	"	1.275	128	1277	128	128	128	128	
	.40	40	"	1.245	125	1247	125	125	1.245	1.242	
	1.00	60	"	1.222	1.224	1.222	1.223	1.225	1.215	1.212	
	1.00	80	"	1.217	1.205		1.206		1.202	1.20	83
	.20	80	"	1.207	1.21	1.207	1.212	1.211	1.197	1.192	
	.40	100	"	1.195	1.190	1.182	1.20	1.195	1.182	1.185	
	2.00	120	"	1.18	1.182	1.184	1.187	1.185	1.177	1.162	
	2.00	120	"	1.06	1.097		1.10		1.12	1.135	84
	.20	140	"	1.16	1.165	1.16	1.17	1.17	1.155	1.142	
	.40	160	"	1.157	1.15	1.14	1.15	1.15	1.125	1.115	

Temp

Temp

Temp

DATE	TIME	MIN	AMPS	482	551	552	568	569	464	488	TEMP. Cells	
7/12/09	3.00	180	40	110	113	111	113	113	110	109		
	3.00	180	"	103	114				119	117	85	Temp.
	.2	200	"	105	110	107	1095	1095	1035	1025		
	.28	208	"						100			— 139.
	.29	209	"							100		— 139.3
	.30	210	"	1017	113	104	107	1072	93	957		
	.33	213	"	100								— 142.3
	.37	217	"			100						— 144.7
	.40	220	"	98	1050	92	1025	105	94	96		
	.43	223	"				100					— 148.7
	.50	230	"	92	100	84	68	100	85	91		— 153.3
	.52	232				50						— 155.
	.53	233	"				50					— 155.3
	.400	240	"	76	96	"		81	66	80		
	.401	240	"	114	113				120	122	86	Temp.
	.01	241	"						50			— 160.7
	.22	242	"	50								— 161.3
	.22	242						50				— 161.7
	.63	245	"							50		— 163.3
	.69	249	"		50							— 165.8
			"									
			"	✓								

Cells 464, 467, 468 were connected in Endurance Section after this discharge for 50 runs.

DATE	TIME	MIN	AMB	482	051	662	562	564	466	467	468	904	488	Bell	
	charge			116	(78)		(70)			(171)	170	194	144		
7/12/69	PM 4:00	0	30	114	117		116			85		122	122	86	TEMP
	5:00	60	"	108	107		111			82		117.5	117.5	86.2	"
	6:00	120	"	107.5	107.5		107			80.5		114.5	114.5	86.2	"
	7:00	180	"	102.5	102		102			86.7		113	112.5	86.2	"
	8:00	240	"	102	102		107			89.2		112	111.5	87	"
	9:00	300	"	100.5	104		100.5			101.2		111.5	111.5	86.7	"
	10:00	360	"	100.5	100.5		100.5			104		112	111.5	86.2	"
	11:00	420	"	111	104.7		106			105		113	112	86	"
	11:00	420	"	175	173	171	173	172	179	177	176.2	125.7	124	TBD.	
				Discharge											
7/12	AM 12:00	0	40	143	142	142	144.5	141.5	142.5	142	142	133.5	134.5		
	:04	4	"	133	132.5	133	133	132.5	134.5	134	134	127	133		
	:10	10	"	131	131.5	130.5	131	131.5	132	132	130.5	130.5	130.5		
	:20	20	"	128	128.5	128	128.5	128.5	129	128.5	128.5	128.5	128.5		
	:40	40	"	125	125.5	125	125.5	125.5	126	125.5	126	125	125		
	1:00	60	"	123	123	123	123.5	123.5	123.5	123.5	123.5	122.5	122		
	1:00	60	"	104	108		109			104		116.5	115	84.5	Temp
	:20	80	"	121.5	121.5	121	121.5	122	121.5	121.5	123	120.5	120		"
	:40	100	"	120	120	120	120.5	120.5	120.5	121	122	119.5	118.5		
	2:00	120	"	119	119	118	119	119.5	119.5	120	121	118	117		
	2:00	120	"	105	110		110.5			109.5		118	116.5	83	Temp
	:20	140	"	117	117	116	117.5	118	118.5	118.5	121	116.5	115		
	:40	160	"	115	115	114	115.5	116	117	117.5	118.5	114.5	113.5		

DATE	TIME	MIN	AM4	482	351	556	562	569	456	467	444	448	1046	
7/13/69	AM 3.00	180	40	112	113.5	111.5	113.7	114	105.7	116	117	112	110.2	
	3.00	180	"	106	111.7		112.5			111.5		120.7	115.5	82.2 Temp
	.20	200	"	108	111	108	110.5	111.5	113	114	115	108	110.2	
	.30	210	"	105.5	109	116	108.5	111	111	116.2	119	105	112.5	
	.40	220	"	102	107	102.2	105.5	117.5	108.2	110.2	112	102.2	110	
	.45	225	"									100		
	.47	227	"			100								— 146.7
	.50	230	"	100										— 148.
	.55	235	"	92.2	102.2	92.5	110.	105.	106.	108	110.2			— 149.3
	.57	237	"									95	96	— 150.3
	4.00	240	"	93	100	96	100	100	102.2	105	107.7			— 153.3
	4.05	245	"	110	112.5	50	117.5			114		120	95.5	— 160.
	.10	250	"									120.7	121	82 Temp
	.20	260	"				50							— 160.7
	.25	265	"						100					— 161.
	.30	270	"	79.2	84			72	97	101	102.5			— 163.3
	.35	275	"						100	100	100	59	73	
	.40	280	"					50				50		— 168.
	.45	285	"	50										— 169.
	.50	290	"										50	— 170.
	.55	295	"		50									— 170.7
	.60	300	"											— 172.
	.65	305	"						90.2	92	96			
	.70	310	"								50			— 174.
	.75	315	"						74	100				
	.80	320	"							50				— 181.
	.85	325	"	✓					50					— 183.3
	.90	330	"								✓			
	.95	335	"						✓	114				
	5.00	340	"	105.2	124		121.5			✓		123	127	82.2 Temp

DATE	TIME	[illegible]	[illegible]	[illegible]	422	551	552	554	559	426	427	428	422	424	425	
7/13/09		Change			169	(79)		(79)			(172)			165	165	
	AM 4:55	0	20		116.5	119.7		116.5			118.7			124	129.5	82	Tent
	5:25	60	"		107.5	111.5		110.2			111.7			125	122	80.5	"
	6:25	120	"		103	107		107.2			108			121	119	81	"
	7:25	180	"		100.7	104.5		104.5			104.71			117	118	81	"
	8:25	240	"		99.5	103		103.5			104.5			114	113	81.2	"
	9:25	300	"		100	103		104.2			104.5			113	112	83.5	"
	10:25	360	"		101	104		105			105			112	111	84.2	"
	11:25	420	"		102	105		106			106			113	112	85.5	"
	12:25	480	"		1792	1722	1771	173	1712	177	1741			121	1232	1732	P. D
				Discharge													
7/13/09	PM 12:00	0	40		143	143	1422	142	1412	1425	1426	1412		140	1385		
	.04	4	"		133	133	1305	133		1337	134	1322		1332	133		
	10	10	"		1305	1307	1311	131	131	1312	131	1307		131	131		
	.20	20	"		1282	1282	1282	1286	1286	129	129	1281		1265	1265		
	40	40	"		1262	1262	1262	1262	1265	1252	1252	1262		126	1245		
	1.00	60	"		1.23	1.23	1.23	1.232	1232	1232	123	1231		1212	1212		
	1.00	60	"		107	110		110			110			117	116	842	Temp.
	20	80	"		1212	1212	1207	1217	1215	1212	1212	1222		1197	1192		
	40	100	"		1197	1197	1192	120	1191	1194	1194	1202		1182	118		
	2.00	120	"		1184	1182	117	119	119	119	1192	120		117	1162		
	2.00	130	"		1185	114		114			1132			1212	1182	872	Temp.
	20	140	"		117	1167	117	1172	1174	1177	118	1184		115	114		
	40	160	"		115	115	114	112	111	1122	117	1177		113	112		

| DATE | TIME | [illegible] | [illegible] | [illegible]

DATE	TIME	MIN	7/1/2	482	481	482	468	469	466	467	468	484	488	DELETEMP
7/2/09	Chlorinated		170		180		180		173		176	146		
	PM 4:00	0	30	123	127		125			125	132	137	90	Temp.
	5:00	0	"	117.2	122		117.7			117.7	131	127.2	90.2	"
	6:00	120	"	114.2	124		117.7			117.7	128.2	122	90.7	"
	7:00	180	"	111.7	114		114.2			114.2	124.5	122	90.5	"
	8:00	240	"	109	114		113.7			113.5	121.5	122	89.7	"
	9:00	300	"	108	111		112			111.7	120.2	118.2	89	"
	10:00	360	"	107	108.7		111			111	119	117	87.7	"
	11:00	420	"	107	109.5		110.7			111	118.5	116.7	87	
	12:00	480	"	123.5	111	170	111.7	170.2	173.7	123.7	122.2	172	172.5	TED.
7/14/09	7:17	Recollected												
	12:00	0	30	133	142.5	132	141	132.2	132	134	134.5	139	138	
	.04	4	"	133	133	132.2	132.5	133		133.7	133.7	133.5	133	
	.10	10	"	131	131	131.5	131	131	132	132.5	131	131	131.5	
	.20	20	"	128.5	128.2	128	127.2	128.2	128.5	129	128.5	128.2	128.2	
	.40	40	"	125	125	124.5	125	125	125.7	125	125.7	124.5	124.2	
	1.00	60	"	123	122.5	122.2	123	123	123	123	124	122	122.7	
	1.00	60	"	119.2	112.5		117			117.7		121	119.5	87 Temp
	.20	80	"	121.5	121	120.7	121.5	121.5	121.5	121.5	122.5	120.2	121	
	.40	100	"	120	119.7	119	120	120	120	120.2	121	119.5	119	
	2.00	120	"	111.5	116		117			116		120.5	123.5	87
	2.00	120	"	114.5	117.7	117.5	114.5	114.5	119	119	119.5	117.7	116.2	
	.20	140	"	117	116	115.5	117	117	118	118	118.5	116.5	114.5	
	.40	160	"	114	114	112.2	115	115	116.2	116.2	117	113	112	

DATE	TIME	MIN	AMP	482	551	552	564	565	566	567	568	483	488	1066	
7/14/09	3:00	100	40	111	111	109.5	112	112	113.5	113.5	112	112	109.2		
	3:00	120	"	113	120.5		121.5			118		120.5	120.5	87	Temp
	3:00	200	"	109.5	107.5	106.7	109.7	110.7	110.2	112.7	111	111.7	115.5		
	3:00	210	"	105.5	106.3	102.7	106.2	107.6	109.7	109.7	1.5	110.5	110.5		
	3:00	220	"	105	105	97	108	106	107	110.2	110.5	105	100		
	3:00	223	"				108								– 146.7
	3:00	223½	"	100											– 148.7
	3:00	224	"												– 149.
	3:00	224½	"												– 149.7
	3:00	225	"	95.5	95.5	70	91	101	114	95.5	95	91	95.5		
	3:00	225½	"					103							– 155.
	3:00	226	"			50					100				– 155.3
	3:00	226	"				50								– 157.3
	3:00	226½	"												– 159.
	3:00	227	"							100					– 160.
	4:00	240	"	92.5	70.5			64		95.5	100	55	55		
	4:00	240½	"	114.7	125		126				120		127	87	Temp
	4:00	241	"			50		50							– 162.
	4:00	241½	"										50		– 162.3
	4:00	242	"												– 166.3
	4:00	242½	"	65					19	87.7					
	4:00	243	"	50						52					– 168.3
	4:00	243½	"												– 171.3
	4:00	244	"						64						
	4:00	244½	"						50						– 175.3
	4:00	245	"												
	4:00	245.3	"	117.7	127		126.2			127		126.5	126.2	86.5	Temp
				✓					V	✓	✓				

Cell 482 was removed from this test and connected up on Testing Board for over-charge tests.
See results in individual record-book
7/14/09

DATE	TIME	MIN	AMP	551	552	564	569	466	467	468	426	517		IDLE TEMP	
7/14/09	Charge			(*81)		(*81)		(*174)			*197				
	4:25 AM	0	30	119.7		120		120			124	120.7	5.62	Temp	
	5:25	60	"	114.5		115		114.5			124	124	80	"	
	6:25	120	"	108.5		110.5		110			123	122	86	"	
	7:25	180	"	106		108		108.5			119	118.5	857	"	
	8:25	240	"	105		107		106			117	111	857	"	
	9:25	300	"	113		106		105			115	114	56	"	
	10:25	360	"	104		106		106			114	115	862	"	
	11:25	420	"	104.5		107		107			114.5	114	867	"	
	12:25	480	"	112	112	113.2	112	112.7	113.2	112	113.2	113.5		P. W	
						Discharge									
7/14/09	PM 12:00	0	40	143	142.5	142	141.7	143.2	143	142.2	142.2	139.5			
	:04	4	"	139.2	139.2	138.2	138	139.5	139.2	139	139.2	138.5			
	:10	10	"	138.5	138.2	138	138	138.2	138	138.2	138	138			
	20	20	"	128.2	128	128.2	128.2	128	128.5	128	128	128			
	40	40	"	125	124.7	125	125	125	125	125.2	124.5	124.5			
	1:00	60	"	122.5	122	122.5	122.7	122.7	122.7	122.2	121.5	121.2			
	1:00	60	"	109		111			111	1	118	117	787	Temp	
	20	80	"	121	120.5	121.2	121.2	121.2	121	122	122.0	119			
	40	100	"	120	119.7	120.2	120.5	120.5	120.5	120.2	119.7	118			
	2:00	120	"	118.5	118	119	119	119	119	120	119.2	116			
	2:00	120	"	114.5		114			113		120		877	Temp	
	20	140	"	117	116	117	116.5	118	118.2	117	118	117			
	40	160	"	115	113	115.5	115.5	115	117	117	118	116			

DATE	TIME	MIN	AMTS	551	551	563	568	466	462	462	405
8/17/57	2 PM 300	150	40	1125	1105	1135	1125	1145	115	115.5	110
	300	160	"	1105			116		117		126
	330	200	"	1095	107	1162	1162	1172	112	113	1062
	330	210	"	102	103	112	102	1095	100	111	1015
	525	215	"								
	55	215	"		100						100
	96	215	"								
	10	220	"	164	97	184	105	106	102	102	97
	137	220	"			100					
	47	227	"	100							
	50	230	"	96	10	82	100	162	104	100	86
	524	230	"			00					
	63	233	"					100			
	57	237	"						100	80	
	572	237	"								
	57	237	"								50
	400	240	"	13	50		20	96	99		
	400	240	"	177		175	50		122		133
	04	240									
	63	243		50							
	04	240									
	18	250	"					84	16		
	11	251	"						80		
	175	257½	"					50			
								✓	✓	✓	

466	DETERM	
109		
199	89	Temp
105		
111		
100		— 142.3
		— 143.3
		— 144.
96		— 150.
		— 151.3
92		— 153.3
		— 155.
		— 155.3
		— 158.
		— 158.3
		— 159.3
98		— 160.
129		Temp
		— 161.
		— 162.
50		— 163.
		— 167.3
		— 171.7

DATE	TIME	MIN	AMP	551	552	568	569	466	467	468	484	488	IDLE TEMP	
	Charge			* (82)		(82)			(175)	177	198	148		
7/14/09	PM 4.55	0	30	112		120			121		134	138	80	Temp.
	5.55	60	"	127.7		114.7			116.5		128	124	87.2	"
	6.55	120	"	107.2		110.2			114.7		123.5	121.5	88.5	"
	7.55	180	"	104.2		108			108.7		120	118.7	88	"
	8.55	240	"	103.2		107.5			108		118	117.2	88.2	"
	9.55	300	"	103.5		107.5			107.7		117	116	88.2	"
	10.55	360	"	103.7		107.2			107.5		116	114.2	87.7	"
	11.55	420	"	104		102.5			107.7		115.7	114.7	87	"
	11.55	420	"	173	171	173	171.7	178	175.7	172.2	172.7	172.7	T.D.	
				Discharge										
7/15	AM 12.00	0	40	143.7	142.5	142.5	141	142	142.2	140.5	139	132		
	.04	4	"	133	133	133	133	133.7	134	132.7	133.7	132		
	.10	10	"	130.5	130.7	131	131	131.7	131	130.5	131	130		
	.20	20	"	128.5	128.2	129	128.5	129.2	129	128.5	128.5	128		
	.40	40	"	127.5	127.5	127.5	127.7	127.7	127.5	127	127.5	127		
	1.00	60	"	123	123	123.2	123.5	123	123	124	122	122.7		
	1.00	60	"	108.5		111			110.5		111.5	112	76.5	Temp
	.20	80	"	121.5	121	121.7	121.7	121.7	121.5	122.5	120	119.7		
	.40	100	"	120	119.5	120.2	120.2	120.2	120.5	121	118.2	118		
	2.00	120	"	118.2	117.7	119	119	119.7	119.5	120	117	117		
	2.00	120	"	110.7		113.5			113		121.7	120.5	86.5	Temp
	.20	140	"	117	116	117.7	117.7	118	118	117.5	115.5	117.2		
	.40	160	"	115	113.5	116	115.7	117	116.5	117	113	112		

DATE	TIME	MIN	AMPS	V	#468	#467	#466	#467	#468	#84	#488	HA	LETTER
7/15/07	3:00 PM	160	43	112.2	110.2	112.2	113	115	115	115	110.2	79	
	3:00	180	"	114		116.7			115.7		124	132	86.5 Temp's
	.20	2:00	"	109.7	107	113	110	112	112	113	105.2	132	
	.30	2:10	"	107.2	109	108	107.2	109.7	111.2	111	103	132	
	.37½	2:17½	"									100	
	.38	2:18	"								100		— 143.
	.38	2:18	"										— 144.
	.40	2:20	"	104.5	100	104.2	105	107	107.7	108	98		— 145.3
	.42	2:22	"		98	100						98	
	.42½	2:22½	"	100									— 150.
	.43	2:23	"	99	98.2	99.2	100.2	103.5	104.5	101	89		— 152.3
	.43½	2:23½	"				102			102		83	
	.45	2:25	"		80								— 154.3
	.47½	2:27½	"			80		100					— 156.7
	.49	2:29	"						100				— 158.7
	4:50	2:30	"	84			79	98.5	99.5	50	60		— 159.3
	4:50	2:30	"	116.5		120.7			117		130	132	
	.50½	2:30½	"				50				50		Temp's 161.
	.52	2:32	"										— 162.
	.60	2:40	"	50									— 164.
	.60½	2:40½	"					88.5	77			80	— 164.3
	.70	2:50	"						50				
	.72½	2:52½	"					64.2					— 168.3
	.75	2:55	"					50					
	.80	3:00	"										— 175.3
	.83	3:03	"	124		127.7			122		134.5	132.5	Temp's
								V	V				

DATE	TIME	MIN	AMB	561	562	568	569	466	467	468	404	48	IDLE TEMP	
7/13/09	Charge (83)					(83)			(76)	178	199	149		
	AM 4.55	0	30	119.5		120			120.5		132	122.5	85	Temp
	5.55	60	"	111		113			114		126.7	124	84.5	"
	6.55	120	"	108		110			110		121.7	120	84.5	"
	7.55	180	"	104		106.5			107		118.2	117.7	85	"
	8.55	240	"	102.5		105.			105.		115.	114.7	85.	"
	9.55	300	"	101		104			104.5		114	115.5	85.5	"
	10.55	360	"	102		104			104		113	112	86.	"
	11.55	420	"	103		104.5			105		112	111.5	86.5	"
	11.55	420	"	178	1712	1782	1715	1727	1757	173	1742	1737		P. D.

Discharge

DATE	TIME	MIN	AMB	561	562	568	569	466	467	468	404	48	IDLE TEMP	
7/15/09	PM 1200	0	40	143	1422	1422	1417	143	143	1422	1405	1397		
	04	4	"	132	132	132	1325	1332	133	133	133	1327		
	10	10	"	1305	1302	1305	1307	1312	1312	1307	131	1307		
	20	20	"	128	1277	128	128	1287	1282	128	126	1277		
	40	40	"	125	1247	125	125	125	126	1262	1242	1247		
	1.00	60	"	1227	1225	123	123	1225	1222	1232	1217	1212		
	1.00	60	"	108.2		116.2			108.5		109.2	115.5	87	Temp
	.20	80	"	121	1205	1212	1212	121	121	122	1195	1187		
	.40	100	"	1195	119	120	120	120	120	1207	118	1172		
	2.00	120	"	1182	1175	1185	1187	119	1195	1185	1165	1157		
	2.00	120	"	111		1122			1112		118.2	118	88	Temp
	.20	140	"	1165	1155	1172	117	118	118	1182	115	1135		
	.40	160	"	114	1122	115	1147	116	116	1162	112	1105		

DATE	TIME	TIN	PRESSURE	562	568	569	466	467	468	404	458	I-D LETTER	TEMP
	PM												
7/14/09	3.00	180	40	1.122	110	1.13	1.127	1.142	1.142	1.144	1.097	1.082	
	3.00	180	"	1.124		1.15		1.14			1.23	1.205	BBK Temp
	3.20	200	"	1.092	1.062	1.10	1.094	1.112	1.117	1.122	1.096	1.037	
	3.30	210	"	1.072	1.04	1.077	1.075	1.092	1.10	1.107	1.02	1.00	
	3.30½	210½	"								1.00		— 142.3
	3.35½	215½	"										— 143.7
	4.0	220	"	1.095	1.00	1.095	1.047	1.06	1.095	1.08	0.974	0.97	— 146.7
	4.7	227	"			1.00							— 151.3
	4.9	229	"	1.00									— 152.7
	5.0	230	"	.992	.895	.962	1.007	1.027	1.042	1.02	.887	.922	
	5.1½	231½	"				1.00						— 154.3
	5.2	232	"							1.00			— 154.7
	5.4½	234½	"					1.00					— 157.
	5.6½	236½	"		.95								— 157.7
	5.8½	238½	"			.95		1.00					— 159.
	5.9½	239½	"						.95				— 159.7
	6.0	240	"	.842			.825	.972	.987		.624	.805	
	6.0	240	"	1.082		1.21			1.177		1.29	1.237	BBK Temp
	6.2	242	"								.95		— 161.3
	6.5	245	"				.95						— 163.3
	6.7	247	"									.95	— 164.7
	6.9½	249½	"	.95									— 165.
	7.0	250	"					.862	.774				
	7.3	253	"						.95				— 168.7
	7.8½	258½	"					.95					— 172.3

DATE	TIME. MIN		AMP 551	502	508	569	446	467	465	464	485	Temp.
7/12/05	Charge (84)			(84)			(113)		119	200		
	PM 4:00	0	177		172			172		128	124	87 Temp.
	5:00	60	177		172			172		123	121	87 "
	6:00	120	176		108			108		175	118	86 "
	7:00	180	103		104			104		150	114	84 "
	8:00	240	101		102			102		122	124	84 "
	9:00	300	101		103			103		112	117	84 "
	10:00	360	102		104			104		124	122	86 "
	11:00	420	102		105			106		125	122	86 "
	11:55	420	174	172	174	172	174	177	125	125	125	P.D.
	Discharge											
7/14	AM 12:00	0	143	122	142	141	142	142	141	135	125	
	.04	4	133	133	133	133	134	133	133	133	125	
	.10	10	131	131	131	131	132	132	132	127	127	
	.20	20	128	128	128	129	129	129	128	128	128	
	.40	40	125	125	125	125	126	125	126	125	125	
	1.00	60	125	123	123	123	123	123	124	122	122	
	1.00	60	109		110			110		117	116	86.5 Temp.
	.20	80	125	121	121	121	121	125	122	120	117	
	.40	100	120	120	120	120	120	120	120	118.5	116	
	2.00	120	116.5	116	119	119	119.5	119.5	120	117	116	
	2.20	120	115		113			113		120	120	87 Temp.
	.20	140	115	115	116	116	116.5	116.5	119	116	115	
	.40	160	114.5	113	115	115	116.5	116.5	117	117	115	

DATE	TIME														
7/10/05	AM 2.00	110	110	113	110.5	112.5	113	115	115	115	110	109			
	3.00	120	"	114		116				115.2		122	121.5	57	7.00
	12.00	200	"	110	107	110	110	112	112	112	113	105	109		
	1.00	200	"	107.7	109	109.7	109.7	110	110	111	112	110			
	1.25	215	"									102			— 143.3
	1.30	220	"								100				— 144.
	1.40	223	"	105	100	105	105	107	108	106.5	97.5	98			— 146.7
	1.50	225	"			109									— 152.
	2.00	230	"	111	105	97.5	105	108	105	108	92.5	92.5			
	2.30	2.35	"	100											— 155.7
	2.40	2.40	"				100			100					— 156.
	2.50	2.50	"		50			100							— 159.3
	2.55	2.55	"			50									— 159.7
	3.00	3.00	"	87			87	90.2	100	55	66	85.5			— 160.
	3.20	3.20	"	116.5		121			116.5		122.5	122		57.5	7.00
	3.25	3.25	"							50					— 160.3
	3.30	3.30	"								50				— 162.3
	3.35	3.35	"				50								— 164.7
	3.40	3.40	"									50			— 166.
	3.45	3.45	"	50											— 166.3
	3.50	3.50	"					91	85						
	3.55	3.55	"						50						— 170.
	4.00	4.00	"					62.5							
	4.05	4.05	"					50							— 176.
	4.10	4.10	"	126.5		125.5			123		127	129		57.5	7.00

DATE	TIME	MIN	AM.	551	516	526	529	416	417	418	419			
7/11/1				Discharge	(85)	(85)	(85)				120			
	4.50	0	30	118		118			118.5		123	118	87	Temp
	5.00	10	"	112.5		112.5			115		120	119	86.2	"
	5.30	120	"	109.7		111			111.5		122.7	117	86	"
	7.00	180	"	105		106.7			107		118	117	84.7	"
	8.00	240	"	103		105			115		115	113	84.7	"
	9.50	300	"	102.5		104.5			104.5		113.5	113	85.5	"
	10.50	360	"	102.5		104.5			104.7		112.5	113	85.	"
	11.50	420	"	102.5		105.2			105.5		113	112	85.5	"
	12.50	480	"	1.73	1.712	1.73	1.715	1.777	1.76	1.73	1.745	1.748		P. W.
				Discharge										
7/16/09	PM													
	12.00	0	40	1.437	1.432	1.43	1.41	1.432	1.435	1.41	1.397	1.398		
	.04	4	"	133	133	133	1332	134	134	1332	1322	133		
	.10	10	"	131	131	1312	131	132	1317	131	1312	131		
	20	20	"	1283	1282	1287	1287	129	129	1285	1282	128		
	40	40	"	125	125	1252	1253	1255	125	1255	1247	1248		
	1.00	60	"	123	123	1232	1233	1232	123	1237	1217	1215		
	1.00	60	"	108		109			109.5		116	115	86	Temp
	2	80	"	1212	121	1215	1212	1212	1212	122	1146	1119		
	40	100	"	120	1192	1202	1202	1202	1202	1221	1148	1172		
	2.00	120	"	118	1175	119	1187	119	119	1195	1160	1165		
	2.00	120	"	110.2		111.7			111.7		119	118	86.2	Temp
	.20	140	"	117	116	118	1165	118	118	1182	1146	1135		
	40	160	"	1147	113	1137	115	1165	1162	117	1127	1115		

DATE	TIME	MIN	AMPS	551	552	553	554	466	467	468	464	465	TEMP	
	PM												Solar	
7/16/69	3:00	180	40	1112	1092	1127	1122	114	118	1145	108	1072		
	300	180	"	119		1155			115		122	120	847	Temp
	140	190	"	111	108	1115	111	111	113	1135	1065	105		
	90	200	"	158	105	109	108	110	111	112	103	101		
	86	206	"									100		— 137.3
	86	208	"								100			— 138.7
	36	210	"	106	102	106	106	108	110	109	995	98		
	34	218	"		100									— 142.7
	40	220	"	105	98H	1017	102	105	106	1065	93	99		
	42½	222½	"			100								— 148.3
	44½	224½	"	100										— 149.7
	45	225	"				100							— 150.
	48½	228½	"							100				— 152.3
	50	230	"	95	84	84	96	101	102	96	82	88		
	51½	231½	"					100						— 154.3
	53½	233½	"						100					— 155.
	53	233	"		50									— 155.3
	54	234	"			50				50				— 156.
	54½	234½	"								50			— 157.7
	400	240	"	72			50	84	82			60		
	400	240	"	119		121			115		127	121	845	Temp.
	01	241	"				50							— 160.7
	02	242	"									50		— 161.3
	03	243	"	50					50					— 162.
	05	245	"											— 165.3
	10	250	"					76						
	14½	254½	"					80						— 169.7

DATE	TIME	MIN	AMPS	551	552	563	567	466	467	468	404	481	TEMP Rec
	Charge			#(82)		(82)		(109)	5	181	202	152	
7/12/09	PM 455	0	30	115		114			114		125	122	84
	555	60	"	1105		109			109		1202	119	83.7
	655	120	"	1065		107			107		1185	117	83
	755	180	"	103		104			104		114	132	82.5
	855	240	"	101.7		103.7			103.5		1122	111	82.5
	955	300	"	1017		1034			1032		1112	110	82
	1055	360	"	101		1032			1035		111	109.5	81
	1155	420	"	102		104.5			105		111.7	111.7	81.7
	1155	420	"	1027	1217	1227	172	173	177	173	172	1257	
				Discharge									
7/17	AM 12.00	0	40	1442	1237	1237	1422	1237	1427	142	1422	140	
	.04	4	"	1337	1337	1237	134	134.5	134	134	134	134	
	.10	10	"	131	131	131	131.5	132	131.7	131	131.5	131.5	
	.20	20	"	129	129	129	129	129.7	129	129	129	129	
	.30	30	"	127.7	127.5	127.7	127.7	126	127.5	126	127.5	127.5	
	1.15	75	"	122	122	122	122	122	122	122	121	122.2	
	1.15	75	"	108		109.5			109.5		116	115	85 Temp
	.25	85	"	121	121	121.7	121.7	121.5	121	122	120	119.5	
	.40	100	"	120.2	120	121	121	120.5	120.5	121.7	119	118.2	
	2.00	120	"	118	118	119	119	119.5	119.7	120	117	116	
	2.00	120	"	109.5		111.5			111		118.5	117.2	83 Temp
	.20	140	"	117.5	116.5	118	118	118.2	118.2	119	116	115	
	.40	160	"	115.5	114.7	116	116	116.2	116.2	117.5	115.5	114.5	

DATE	TIME															
7/17/89	3.00	160	40	117.5	107	114	114	115	115	115.7	116	115				
	3.05	150	"	112		113.5			113		120.7	117.7			122	Temp
	.20	232	"	109.7	102.5	110	109.7	111.7	112	112.5	105.7	112.5				
	.30	212	"	108	105	106.2	110	110	111	111.5	103	112.5				
	.35	215	"									100				
	.35	216	"								100					
	.40	220	"	116	102	112	106	106	110.5	108.7	93	99				
	.40	220	"		100											
	.50	223	"	102	97.5	105	102.5	113.5	106	108.7	93	95				
	.50	223	"	100												
	.55	230	"				100									
	4.00	230	"	93	67	70.7	96	105	100	108.7	100	99				
	4.05	230	"	114.5		112			102		125	114.7			82	Temp
	102/223		"		50											
	.05	223	"			50			100							
	.09	224	"							50						
	.10	224	"								50					
	.15	220	"	107			50	92	89.7			125				
	.15	223	"				50									
	.15	224	"	50								50				
	.17	224	"						50							
	.20	225	"					76								
	.25	225	"					50								
	.25	225	"	100		122			114.5		130.5	125			82.7	Temp
											✓	✓				

DATE		
		— 143.3
		— 144.
		— 148.3
		— 153.3
		— 155.3
		— 156.7
		— 160.
		— 161.7
		— 162.
		— 162.7
		— 164.
		— 167.
		— 168.3
		— 171.7
		— 176.7

DATE	TIME	MIN	AMPS	SS1	SS2	SS3	SS4	SS5	SS6	SS7	SS8			
7/17/09			Discharge (27)			(27)		(100)	187	203				
	4:00	0	50	116		116			116.5	124	124			Temp
	8:00	4	"	109.5		110.5			110.5	121.5	121		82	"
	10:00	10	"	106.7		108			108.5	119	117.5		82	"
	12:00	12	"	103.7		104.7			104.7	115	114.7		81.25	"
	1:00	13	"	102		104.5			104	113	112.5		83	"
	2:00	14	"											"
	3:00	15	"											"
	4:00	16	"	103.5		105			105.5	112	111			"
	5:00	17	"	103.7	103.5	103.7	103	102.5	102.7	103.7	103.5	175		P. W

Stood idle 36 hrs over Saturday & Sunday charged

Discharge

7/19/09	AM 12:00	0		81		81			84		80	90.5	78.5	Temp.
	12:00	0	40	130	130	130	130	131	131	130	129.5	129.5		
	.04	4	"	123.5	123.5	123.5	123.5	124	124	123.5	123.5	122		
	.10	10	"	121.5	121	121.5	121.5	122	122	122.5	122.5	120		
	.20	20	"	120	119.5	120	120	120	120	119.5	119	117		
	.40	40	"	116.5	116	116.5	116.5	116.5	117	117	116	115.5		
	1:00	60	"	115	114.5	115	115	115	115	115	114	113		
	1:00	60	"	89		90			89		90.5	90	78	Temp.
	1:30	80	"	116	115.5	116.5	116.5	116.5	117	116.5	116.5	115.5		
	40	100	"	116.5	115.5	116	116.5	116	116	116	116.5	116		

DATE	TIME	MIN	AMP	551	552	562	569	426	467	416	404	398	Th	
7/19/47	AM 2.00	120	40	113	112	1135	1135	1145	115	1165	110	110		
	2.00	"	"	96		925			947		98	96	112	Temp
	:26	140	"	111	1035	1117	1115	1125	1137	1137	1031	1037		
	26	150	"	110	108	1165	1165	1125	1125	110	106	105		
	40	160	"	109	106	109	1062	112	112	112	1045	1045		
	41	161	"									105		— 110.7
	50	170	"	1075	1045	1035	107	110	110	111	102	98		
	51	171	"								100			— 117.3
	300	180	"	1055	103	1055	1045	105	1055	109	099	907		
	3.00	180	"	100		101			975		101	104	112	Temp
	:03	183	"		100									— 126.
	10	190	"	104	992	1022	1025	1062	107	1077	94	915		
	20	200	"	1025	945	100	100	104	105	105	88	882		— 133.3
	21½	201½	"	100	"									— 136.3
	30	210	"	92	50	90	96	101	102	100	78	84		— 140.
	35	215	"		50			100						— 143.3
	36	216	"			50			100					— 144.
	37	217	"							50	50			— 144.7
	40	220	"	78			70	91	97			79		
	42½	222½	"				50							— 148.3
	45	225		50								80		— 150.
	50	230	"					80	57					
	51½	231½	"						80					— 154.3
	57	237	"					50						— 158.
	400	240		111		1135			109		117	115	225	Temp
											✓	✓		

All # 398 was connected in Endurance Section after this discharge for 25 runs.

DATE	TIME	MIN	AMB	551	552	568	567	466	467	468	469	465	398	Alb	
			Change # (88)		# (82)			(# 101)	# 102		# 109	# 104	# 98		
7/19/07	AM 455	0	90	106		107			106		115	110	80	112	Temp
	555	60	"	105		105			101		111	103	84	78	"
	655	120	"	97		97			97		107	105	85	74	"
	755	180	"	94		94			94		104	103	88	72	"
	855	240	"	93		94			94		102	102	90	72	"
	955	300	"	93.2		94.7			94.2		102	102	92	73	"
	1055	360	"	94		94.7			94.7		102	103	94	74	"
	1155	420	"	95		97.2			97.7		104	104	97	75	"
	1155	420	"	96	1.74	1.76	1.74	1.82	1.80	1.77	1.79	1.94	1.82	P.D.	
7/19/07	1200		Discharge												
	1200	0	40	1.44	1.43	1.45	1.42	1.43	1.35	1.41	1.56	1.40	1.397		
	04	4	"	1.327	1.327	1.337	1.332	1.342	1.324	1.337	1.337	1.335	1.336		
	10	10	"	1.312	1.312	1.315	1.315	1.322	1.322	1.315	1.317	1.312	1.337		
	20	20	"	1.285	1.282	1.285	1.287	1.292	1.29	1.29	1.287	1.285	1.302		
	40	40	"	1.245	1.245	1.247	1.242	1.247	1.247	1.247	1.247	1.242	1.262		
	1.00	60	"	1.224	1.224	1.222	1.222	1.23	1.227	1.227	1.222	1.224	1.234		
	1.00	60	"	1.00		1.02			1.017		1.08	1.085	1.017	1.062	Temp.
	20	80	"	121	121	121	1.215	121	121	122	121	119	124		
	40	100	"	120	1.190	1.207	1.207	120	120	1.214	1.184	118	120		
	2.00	120	"	118	1.182	119	119	119	1.172	120	117	1.112	119		
	2.00	120	"	1.022		1.055			1.047		112	112	1.04	1.085	Temp.
	20	140	"	117	116	119	1.175	118	118	119	1.157	1.145	118		
	40	160	"	115	114	1.157	1.157	1.162	1.162	117	1.13	1.125	117		

DATE	TIME	TIME	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	466	467	468	469	488	398	Odle	
7/19/79	PM 3:00	180	40	112.5	112.5	112	113	112.2	112.2	105.7	112	110	115.5		
	3:00	180	"	105.5		108.2			108		115.2	115	105.2	78	Temp
	3:00	200	"	105.7	107	110	113	112.5	112.7	113	115.5	105.7	112.5		
	1:00	210	"	117	109	109.7	112.7	112.5	112.7	111	117	112	111		
	1:35	210	"								122				— 143.3
	2:27	210	"									110			— 144.7
	4:15	210	"	105	115	109.5	103	102.2	103.5	119	117	119	119		
	4:34	210	"		109										— 148.3
	4:49	210	"			120									— 152.7
	5:00	230	"	101	92.2	99	111.7	103	108.2	115	91	95.5	105		
	5:21	230	"	100											— 154.
	5:25	230	"				110								— 155.3
	5:35	230	"							110					— 156.7
	5:37	230	"					100							— 158.
	5:37	230	"						110						— 159.3
	6:00	240	"	88	55.7	50	93	90.2	99	74.7	79	52.5	112.5		— 160.
	6:01	240	"	111.2		112.5			111.5		120.5	120	112.2	78.5	Temp
	6:02	240	"		50										— 160.3
	6:15	240	"							50			100		— 161.3
	6:16	240	"								50				— 164.
	6:16	240	"				50								— 165.3
	6:22	240	"	50											— 165.7
	6:22	240	"					70	117			55.7	94.2		
	7:20											50			— 167.7
	11:15	250	"						50						— 169.7
	11:15	250	"										75		
	11:25	250	"					70							— 176.
	12:27	250	"						50						— 176.7
	12:27	250	"										50		
	12:27	250	"	118.5		115.5			114		127	127	119.5	78.5	Temp
											✓	✓	✓		

DATE	TIME	[illegible]	[illegible]	[illegible]	451	452	468	469	466	467	468	404	488	398	Odder	
7/19/09		Charge			(*49)		(*49)		(*442	*124	*2.5					
	P.M. 4.25	0	90	111		114				112	125		122	114	78.7	Temp
	5.25	60	"	107.5		105.5				112.5	121		120	112	79	"
	6.25	120	"	104		105.5				107	117.2		117	112	79.5	"
	7.25	180	"	101.7		102.5				104.7	114.5		109.7	106.5	80	"
	8.25	240	"	100.5		102.5				103	112		113	109.5	80	"
	9.25	300	"	99.5		101.5				102	110.5		112	109.5	80	"
	10.25	[illegible]	"	99		101				101	109		110	109	135	"
	11.25	[illegible]	"	99		101				102	109		110	109.2	192	"
	11.25	[illegible]	"	124.5	122	124	123	130	125	125	122		126	122		P. 40.
							Discharge									
7/20/09	12 AM 00	0	90	142	142	142	142	143	142	142	140		137	140		
	04	4	"	133.5	133.5	133.5	133.5	134	134	134	134		133.5	136		
	10	10	"	130.5	130.5	130.5	131	131.5	131	130.5	131		131	133		
	20	20	"	126	126	126	126	129	128.5	128.5	128		128	130		
	40	40	"	125	125	125	125	125.5	125.5	125.5	124.5		124.5	126		
	1 00	60	"	123	123.5	123	123	123	123.5	124	123		123.5	124		
	1 00	80	"	102		103			101		112		112	112	287	Temp.
	20	80	"	121.5	121	122	121.5	122	121.5	122.5	120		120	122		
	40	100	"	120	119.5	120	120.5	120	120	121.5	118		118	120.5		
	2 00	120	"	118.5	118	119	119	119.5	119	120	117		116.5	119.5		
	2 00	120	"	102		104			103.5		113		114	106.5	265	Temp.
	20	140	"	116.5	116	115.5	116.5	118	118	118.5	115		114.5	118.5		
	40	160	"	114.5	115.5	115.5	115.5	116	116	117	113.5		112	116.5		

DATE	TIME	MIN	AMP	551	557	562	563	466	462	463	409	416
7/20/67	8 00	160	40	1122	1165	112	1125	1142	1192	1155	110	1017
	300	180	"	165		162			165		115	112
	20	200	"	110	101	110	110	112	112	113	1055	1057
	30	210	"	104	1045	108	108	110	110	1117	102	103
	35	215	"								100	
	38	218	"									100
	40	220	"	1045	100	1045	104	106	107	1082	92	94
	50	230	"	100	91	100	1057	102	104	1095	90	95
	52½	232½	"				100					
	54½	234½	"							100		
	56½	236½	"					100				
	58	238	"						100			
	400	240	"	86	50	52	90	92	98	66	70	84
	400	240	"	116		112			113		125	123
	00	2400	"			60						
	10	243	"							50		
	05	245	"								60	
	08	248	"									
	09	249	"				50					
	18	250	"	50				88	80			50
	15	255	"						50			
	20	260	"					18				
	25	265	"					50				
	30	270	"									
	35	275	"									
											✓	✓

8:00	Delle	
1155		
110	79	Temp.
1133		
112		— 143.3
		— 145.3
1035		— 146.7
1045		— 153.3
		— 155.
		— 156.3
		— 157.7
		— 158.7
1025		— 160.
103	775	Temp
		— 162.
		— 163.3
100		— 165.3
		— 166.
98		— 166.7
		— 170.
92		— 175.3
68		
60		— 183.3
✓		

DATE	TIME	MIN	MMA	551	552	561	564	566	467	468	401	480	398	1016	
	AM			Discharge (70)			(90)		(103)	185	200	151	260		
2/20/09	455	0	90	114		114			115		120	126	1135	77	Temp
	555	60	"	106		107			109		121	121	110	76	"
	655	120	"	101		102			103		115	116	105	76	"
	755	180	"	97		101			101		112	113	1035	76	"
	855	240	"	97.5		99			99.2		109	110.5	1017	76.7	"
	955	300	"	97		98.2			98.7		107.7	109.	101.5	76	"
	1055	360	"	97.5		99.2			99.2		107.2	108	102	78.2	"
	1155	420	"	99		101			101		108.2	109.	103.7	79	"
	1255	480	"	1.745	1.725	1.75	1.73	1.797	1.777	1.75	1.77	1.757	1.78		C. D.
				Discharge											
2/20/09	PM 1200	0	40	1.437	1.43	1.43	1.427	1.432	1.422	1.43	1.412	1.42	1.437		
	.04	4	"	1.334	1.332	1.332	1.327	1.342	1.342	1.34	1.32	1.327	1.335		
	.10	10	"	1.307	1.304	1.31	1.31	1.312	1.31	1.31	1.31	1.31	1.332		
	.20	20	"	1.285	1.28	1.285	1.285	1.287	1.285	1.282	1.287	1.29	1.305		
	.40	40	"	1.252	1.252	1.255	1.255	1.257	1.252	1.257	1.247	1.245	1.265		
	1.00	60	"	1.23	1.225	1.232	1.23	1.23	1.225	1.227	1.217	1.212	1.24		
	1.00	60	"	105		105			104		111.5	112.7	107.5	80	Temp
	.20	80	"	121	121	121.7	121.7	121.5	121		122	120	122		
	1.00	100	"	120	120	121	121.5	121.2	121.2	121.5	116.5	116	121		
	1.00	120	"	116.2	116	119	119	119	119	120	117	115.7	119.7		
	1.00	120	"	116.2		108			107		115	115.7	111	80	Temp
	.20	140	"	117	116.2	117.7	117.7	117	117	118	115	115.5	116.2		
	1.00	160	"	115	114	116	115.7	116.2	116.2	117	112.5	112	117		

DATE	TIME	MIN.	AMPS	551	552	568	569	466	467	468	404	488	398	TEMP Delta	
7/20/09	P.M. 3.00	180	40	112	110.5	113	112.5	114	114	115	109	109	115		
	3.00	180	"	120.7		111			110		112	110	113		Temp
	20	200	"	109.5	107	110	109.5	111	111.5	112.2	104	104.7	113		
	.20	210	"	107	104	112.5	107	121.7	109	110.2	100	111	111		— 140
	.32	212	"									100			— 142.
	.40	220	"	104	100	104.2	104	105.5	107	108	99.5	97	108.5		— 146.7
	.47	227	"			100									— 152.
	.56	236	"	100											— 152.3
	.50	230	"	99	99	97	100	101.7	107	102	86.2	92	106		— 153.3
	.53	233	"							100					— 155.
	.55	235	"					100							— 155.3
	.57	237	"						111						— 156.7
	.60	240	"		100	100									— 159.
	.59	239	"												— 159.3
	4.00	240	"	82			66	94.5	95.5	100	81	77	102		
	4.00	240	"	114		117			113.5		123.7	122.7	115	81.7	Temp
	.03	243	"								100				— 160.3
	.12	252	"										100		— 162.3
	.12	252	"				100					100			— 163.7
	.14	254	"												— 164.3
	.14	254	"	100				100	51				97		
	.17	257	"						100						— 167.
	.18	258	"					100							— 170.7
	.20	260	"										88		
	.30	270	"										100		
	.32	272	"										100		— 181.7
	.32	272	"	121		121			120.5		132.2	129.7	113.7	122	Temp
											✓	✓			
													✓		

DATE	TIME	MIN	MIN	MIN	551	552	553	554	555	556	557	558	559	559	10	
7/2/09		change			(91)		(91)			(184)	186	203	187	26		
	P.M. 4:55	0	30		118		117				118		127	127	115	82.5	Temp
	5:55	60	"		1127		1132				1134		1262	1266	114	83	"
	6:55	120	"		109.5		1105				1125		1227	1235	113	84	"
	7:55	180	"		1122		1125				1025		119	120	111	84	"
	8:55	240	"		104		1062				107		116	1172	109	85.2	"
	9:55	300	"		102.2		1095				115		114	115	107.2	82.5	"
	10:55	360	"		102		104				104		113	114	107	81.6	"
	11:55	420	"		102		104				1045		113	1135	107	81.2	"
	12:55	480	"		114	112	114	112	118	112	114	114	1165	1170	1125		Φ. 10
					Discharge												
7/2/09	AM 12:00	0	40		140	149	144	1435	1445	144	144	1135	142		1417		
	04	4	"		137	137	137	137	1323	132	138	131	138		140		
	10	10	"		1307	131	1305	131	1319	131	1312	1312	131		1335		
	20	20	"		1215	122	1232	1225	123	1225	1232	1222	124		1307		
	40	40	"		1265	1265	1265	1267	127	1265	1262	126	126		128		
	1:00	60	"		124	1256	1232	124	1242	1235	124	1222	1222		125		
	1:00	60	"		102		1233			1035		112	113		1065	805	Temp
	2:00	80	"		122	122	122	122	1222	122	1225	120	120		1225		
	4:00	100	"		120	120	1265	1262	120	120	1215	115	114		1205		
	5:00	120	"		1186	112	115	119	119	112	122	120	1155		1155		
	6:00	140	"		102		105			1035		113	1165		107	79	Temp
	8:00	160	"		105	1125	118	112	116	118	119	116	115		1165		
	10:00	180	"		1151	1165	1123	116	117	1165	1127	1132	1125		117		

DATE	TIME	MIN	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1/21/07	AM 300	150	96	1135	112	104	114	1185	115	112	110	110		
	300	180	"	105		107			1065		113	1120		
	20	200	"	1105	1025	1165	1115	1175	1170	1125	1065	106		
	27	217	"								100			
	40	230	"	107	104	107	106	108	109	110	997	100		
	48	238	"		100									
	50	230	"	107	118	108	102	105	106	107	925	995		
	51	231	"			100								
	52	232	"				100							
	53	233	"	100										
	400	240	"	997	235	96	98	1012	103	1025	94	90		
	402	242	"	112		112			112		124	123		
	03	243	"					100		100				
	08	248	"		50				100					
	09	249	"			50								
	09	249½	"								50			
	10	250	"	85			82	90	74	50		47		
	14	254	"									50		
	15	255	"				50							
	18	258	"	56				76	56					
	20	260	"						60					
	21	261	"					50						
	25	265	"											
	30	270	"											
	31	271	"											

398	Stable Temp.	
1165		
103	112	Temp
1035		— 144.7
110		— 146.7
		— 152.
107		— 157.3
		— 158.7
		— 159.3
104		
113	28	Temp
		— 162.
		— 165.3
		— 166.
		— 166.3
100		— 166.7
		— 169.3
		— 170.
		— 172.
96		
		— 174.
		— 176.7
82		
50		— 180.7

DATE	TIME	PSIG	AMP.	501	502	503	504	506	507	508	509	1120	552	Dell	
		Schengi		(92)		(92)			(195)	197	208	158	260		
7/21/07	AM 455	0	90	115		115			115		128	120	114	777	Temp.
	555	60	"	108		109			112		124	120	112	770	"
	655	120	"	1045		107			105		117	120	103	28	"
	755	180	"	101		103			104		114	116	100	79	"
	855	240	"	99.7		101.5			102.7		111.5	113	104.5	79.5	"
	955	300	"	99.2		101.2			101.2		110.2	112	104.2	80	"
	1055	360	"	100		102			102		110	111.5	104.7	81	"
	1155	420	"	101.2		103			102.5		111.	111.7	106.7	81.7	"
	1155	420	"	1.742	1.722	1.745	1.725	1.725	1.775	1.745	1.765	1.75	1.78	70	D.
7/21/09	7 AM		Discharge												
	1200	0	4/0	1.432	1.43	1.43	1.432	1.432	1.43	1.43	1.412	1.40	1.44		
	.04	4	"	1.332	1.33	1.322	1.327	1.342	1.342	1.342	1.32	1.337	1.367		
	.10	10	"	1.31	1.31	1.31	1.312	1.317	1.317	1.31	1.312	1.31	1.337		
	.20	20	"	1.29	1.287	1.29	1.29	1.292	1.29	1.29	1.287	1.287	1.31		
	.40	40	"	1.255	1.252	1.255	1.255	1.25	1.255	1.255	1.245	1.245	1.267		
	1.00	60	"	1.23	1.227	1.230	1.232	1.23	1.227	1.225	1.21	1.215	1.237		
	1.00	60	"	1.06		1.07			1.07		1.07	1.07	1.10	81.7	Temp.
	2.0	80	"	1.215	1.21	1.217	1.217	1.215	1.215	1.222	1.20	1.197	1.22		
	.40	100	"	1.20	1.20	1.215	1.202	1.202	1.202	1.21	1.192	1.17	1.205		
	2.00	120	"	1.17	1.162	1.19	1.19	1.19	1.19	1.20	1.172	1.165	1.19		
	2.00	120	"	109.5		111			105		112	112.5	112.7	82.5	Temp.
	2.0	140	"	117	116.2	117.7	117.5	117	117	116.2	115	114.5	117		
	4.0	160	"	1.15	1.147	1.16	1.157	1.165	1.162	1.17	1.17	1.172	1.17		

DATE	TIME	MIN	AMB	4W-1	4W-2	4W-8	4W-9	4W-6	4W-7	4W-8	4W-4	4W-3	398	Delle	Temp.
7/21/09	3:00 PM	180	40	1.13	1.11	1.175	1.13	1.142	1.142	1.15	1.095	1.09	1.145		
	3:00	180	"	1.12		1.13			1.127		1.205	1.207	1.15	835	Temp.
	.20	200	"	1.10	1.075	1.10	1.097	1.115	1.115	1.125	1.05	1.07	1.12		
	.30	210	"	1.08	1.05	1.08	1.07	1.09	1.097	1.105	1.002 / 1.00	1.01	1.10		— 140.7
	.31	211	"												— 142.
	.35	215	"									1.20			
	.40	220	"	1.055	1.01	1.05	1.042	1.06	1.07	1.08	.95	9.2	1.08		— 147.7
	.41	221	"		1.02	730									— 151.7
	.45	225	"												— 153.3
	.50	230	"	1.00	8.87	8.87	1.02	1.02	1.02	1.01.5 / 1.10	8.4	9.1	1.02		— 154.7
	.52	232	"												— 155.3
	.55	235	"					1.01							— 157.3
	.57	237	"						1.03						— 158.7
	.58	238	"		50	50				50	50				— 159.
	4:00	240	"	6.55			1.02	9.42	9.55			6.4	111		
	4:00	240	"	1.47		1.49			1.147		1.202	1.205	1.147 / 1.20	835	Temp.
	.01	241	"									50			— 161.
	.02	242	"				50								— 161.7
	.04	244	"												— 163.
	.07	247	"	50.											— 164.7
	.09	249	"							50					— 166.
	.10	250	"					73 / 50					95		
	.13	253	"												— 169.
	.20	260	"										84 / 50		
	.25	265	"												— 180.3
	.30	270	"	1.25		1.23			1.23		1.35	1.31	1.29	84	Temp.
				✓	✓	✓	✓						✓		

DATE	TIME	MIN	AMP	551	552	553	569	566	567	564	565	563	562	1026	
7/21/69		Charge		(92)		(93)		(176)		188	209	157			
	P.M. 4:55	0	30	118		118		122.5			133.7	122		118.8	Temp
	5:55	60	"	112		112.7		115.5			127	122.5		115	83.5
	6:55	120	"	107		108		110.2			122.5	122.5		112.5	82
	7:55	180	"	103.7		105		106.5			117	115		108	80.2
	8:55	240	"	101.2		103		103.7			113.7	115		106.2	80.7
	9:55	300	"	100		102		102.7			112	112.5		105	80.2
	10:55	360	"	100		101.7		102.2			111	112		105	80
	11:55	420	"	100		101.5		102			111	112		105	80
				112	114	112	112	110	112	112	118	112		112	81.10
				Discharge											
7/21/69	AM 1:00	0	40	146	146	146	146	145	146	144	142	146		145	
	10	10	"	136	136	136	136	137	137	135	137	137		139	
	20	20	"	131	131	131	131	131	131	131.5	131.5	131		133	
	30	30	"	129	128	128	128.5	131	131	128.5	128.5	129		131	
	40	40	"	126.5	125	125	125.5	125	126.5	125.7	125	125		127	
	50	50	"	123	122.5	122.5	122.7	123	123	123.7	122.5	122		125.5	
	100	60	"	99		101			100		111	105		111	79 Temp
	10	80	"	120	121	121.5	121	121	121	121.5	121	121		122	
	40	100	"	120	120	120.5	120.5	120.5	120.5	120.7	120.5	120.5		121	
	200	120	"	118	118.5	119	119	119	119.5	120.7	119.7	118.5		119	
	200	140	"	117		200			101		101	109		103	Temp
	20	140	"	117	117.5	117.5	118.5	118	118	118.5	118.5	118.5		118	
	40	160	"	116	116	116	117.5	116.5	116.5	117	117.5	117.5		117	

DATE	TIME	MIN	AMPS	551	552	561	569	426	422	414	461	482	398	IDIS	
1/12/19	300	180	46	113	111	1135	1135	1142	1149	115	1095	109	145		
	300	180	"	100		103			103		110	117	105	98	Temp.
	90	200	"	1105	1015	110	110	1113	1112	1127	1052	1095	112		
	30	210	"	103	182	109	1025	1135	1102	1115	1015	101	111		
	32	215	"									100			— 145.3
	40	220	"	101	1055	108	107	1095	1092	1187	100	99	110		— 146.7
	50	230	"	102	1005	106	1045	108	102	109	905	905	109		
	52	232	"		100										— 158.7
	400	240	"	102	99	1025	102	105	102	1015	92	94	1025		
	400	240	"	106		110			109		119	111	112	103	Temp
	05	245	"			103									— 163.3
	06	246	"				100								— 164.3
	07	247	"	100											— 164.7
	10	250	"	98	82	84	98	102	103	100	83	89	104		— 166.7
	12	252	"		50	50		100							— 172.3
	20	260	"	84			84	92	100	50	82	82	102		— 173.3
	22	262	"								50				— 174.3
	24	264	"									50	100		— 176.
	25	265	"				50								— 176.7
	28	270	"	50				92	54				99		— 180.
	31	271	"						50						— 180.7
	32	272	"					50							— 184.
	40	280	"										86		
	50	290	"										50		— 193.3
				✓	✓	✓	✓								

DATE	TIME	MIN	AMP	551	557	568	569	426	467	462	464	434	398	DATE	
	Recharge			49.4		(94)		(152)		149	210	110	364		
7/22/09	455	0	30	118		116			115		125	125	115	77	Temp
	555	60	"	110		110			112		125	125	113	77	"
	655	120	"	103		104			105		117	120	103	77	"
	755	180	"	99		101			102		114	112	105	77.5	"
	855	240	"	96		98.7			98		112	112	102	77.2	"
	955	300	"	96		97.5			98.7		108	110	104	77.2	"
	1055	360	"	96.2		97.2			97.2		107	109	101	78	"
	1155	420	"	96		98.5			99		107	109	103	78.5	"
	1255	480	"	1.042	1.03	1.05	1.03	1.045	1.08	1.047	1.07	1.05	1.09		C. 10
				Discharge											
7/22/09	PM 1200	0	40	1.425	1.425	1.425	1.417	1.422	1.427	1.422	1.40	1.397	1.425		
	04	4	"	1.337	1.335	1.335	1.33	1.337	1.337	1.337	1.335	1.337	1.336		
	.10	10	"	1.305	1.302	1.302	1.305	1.312	1.31	1.307	1.31	1.307	1.302		
	.20	20	"	1.28	1.277	1.28	1.282	1.285	1.282	1.28	1.28	1.28	1.307		
	.40	40	"	1.264	1.264	1.264	1.262	1.265	1.25	1.265	1.265	1.264	1.262		
	1.00	60	"	1.224	1.227	1.227	1.23	1.227	1.227	1.224	1.224	1.217	1.224		
	1.00	60	"	1.02		1.022			1.024		1.07	1.12	1.045	78.5	Temp
	.20	80	"	1.21	1.21	1.205	1.217	1.21	1.21	1.22	1.197	1.19	1.217		
	.40	100	"	1.20	1.197	1.20	1.20	1.20	1.20	1.21	1.18	1.177	1.20		
	2.00	120	"	118	117.7	118.5	118.5	118.5	118.5	118.7	116.7	115.7	119		
	2.00	120	"	103		104.5			104		113	113.7	106.5	78	Temp
	.20	140	"	117	116	117.5	117	118	118	118.2	115	114	118		
	.40	160	"	115	114	115.7	116.5	116	116	117	113	112	116		

| DATE | | |

Date	Time	Min	Hours	1	2	3	4	5	6	7	8	9	10	11	12	398	Note	
7/22/09	Charge			104	104	108	190	211	161							264		
	7:00	0	30	112.2		112				113.5			126.5	114.7		114	77	Temp
	7:30	60	"	106.5		107				107			121	121		110.2	77	"
	6:00	120	"	104		105				106			117.5	118.2		108	77.7	"
	7:00	180	"	101.5		103				103.7			114.5	115		104.5	78	"
	8:00	240	"	99.5		101.5				101.5			111.2	113		104.5	78.2	"
	9:00	300	"	98		[illegible]				[illegible]			109	111		102	78	"
	10:00	360	"	97		99.5				99.5			108	110		103	77.7	"
	11:00	420	"	97.5		100				100			108	109.5		103.5	77.5	"
	12:00	480	"	116	114	116	114	180	129	116			118	117		180		P. 10
				Discharge														
7/23/09	AM 12:00	0	40	143	143	143	142	142	142	142	142	140	139.7			144		
	04	4	"	133.7	133.5	133.7	133.5	134	134	134	134	134	133.7			134.5		
	10	10	"	133.7	133.5	131	131	131.7	131.5	131	131.5	131	131			133.5		
	20	20	"	132.7	132.7	132.5	132.5	132.5	132.7	132.7	132.5	132	132			130		
	40	40	"	132.5	132.5	132.7	132.7	132.5	132.7	132	132.5	132.5	132.5			126.5		
	1:00	60	"	123.5	123.5	123	123	123	123.5	123	123.7	123.5				123.7		
	100	60	"	100		103			102		103	111				105	77	Temp
	20	80	"	120.5	120.5	121.7	121.7	122.5	121.7	122	120	119.7				122		
	40	100	"	120	120	120	120	120	120	121	121	121.7				120.2		
	200	120	"	118	118	119	119	119	119	120	116.5	116				119.5		
	220	120	"	102.5		105			104		113	114				109	77.7	Temp.
	20	140	"	115	116	117.7	116.5	116	115		118	115	114			118		
	40	160	"	115	114	115.7	115.5	116	116		115.5	112	115.5			116		

DATE	TIME	MIN	AHL	651	357	562	563	564	565	566	900	926	392	TBLE	
7/23/09	AM 300	130	46	112	111	105	112	114	114	115	109	108	105		
	300	120	"	105	107	102			106		115	116	109	77	Temp
	120	200	"	109	107	110	113	110	110	111	105	105	117		
	30	210	"	107	104	107	106	108	109	110	106	100	110		— 140.
	40	220	"	104	100	104	104	106	116	107	94	95	107		— 146.7
	41	228	"			100									— 152.
	49	229	"				103								— 152.7
	50	230	"	100	90	106	99	100	102	101	84	90	104		— 153.3
	54	234	"							100					— 154.3
	54	234	"						100						— 156.3
	59	237	"			60									— 159.3
	400	240	"	84	50		72	94	86	50	58	61	100		— 160.
	400	240	"	113		115			115		122	120	105	???	Temp.
	04	244										60			— 162.7
	004	245					50								— 164.3
	012	247	"	50											— 165.
	10	250	"					72	50				94		— 166.7
	12	252	"					56							— 169.
	20	260	"										78		
	29	269	"	✓	✓	✓	✓						58		— 179.3

DATE	TIME	MIN	AMB	561	562	563	564	566	567	565	564	568	576	DIF	
	Refrigerant			(96)		(96)		(189)	191	192	192		266		
1/23/55	455	0	36	111		110			110		120.5	120	112	78	Temp
	555	60	"	105		104			106		115	112	104	75	"
	655	120	"	100		101			102		113	112	100	79	"
	755	180	"	97		98			98		107	108	98	74	"
	855	240	"	94.7		96.7			96.7		106.2	106.5	98.7	76	"
	955	300	"	93.4		95.4			95		105.2	104.5	97.7	76.5	"
	1055	360	"	93.7		94.7			95.7		105.2	104	98.7	76	"
	1155	420	"	94.7		98			97.2		106	105	100.5	76	"
	1255	470	"	1.757	1.74	1.76	1.74	1.807	1.79	1.76	1.79	1.752	1.80		P. 10.
						Discharge									
7/23/57	PM 1200	0	40	1.44	1.43	1.43	1.43	1.43	1.43	1.427	1.41	1.39	1.437		
	04	4	"	1.33	1.33	1.33	1.332	1.34	1.34	1.34	1.337	1.332	1.365		
	10	10	"	1.31	1.31	1.31	1.31	1.315	1.315	1.312	1.312	1.31	1.337		
	120	20	"	1.284	1.284	1.287	1.29	1.29	1.287	1.28	1.284	1.28	1.31		
	40	40	"	1.25	1.25	1.252	1.252	1.252	1.25	1.252	1.245	1.242	1.267		
	1.00	60	"	1.23	1.23	1.23	1.23	1.23	1.23	1.23	1.227	1.21	1.24		
	1.00	60	"	100.		101.7			101.		108.	108.5	104		Temp.
	20	80	"	1.212	1.21	1.215	1.215	1.21	1.21	1.222	1.197	1.192	1.22		
	40	100	"	120	120	120.7	120.5	121	121	121	120.5	117	120		
	200	120	"	118.5	118.2	119.5	119	119	119	120	117	116.2	119.0		
	200	120	"	100.7		103			102.5		111.5	110.7	103.2	70.5	Temp.
	20	140	"	117.	117.	118	118	118	118	119	115.7	114.5	118		
	40	160	"	1.15	1.142	1.16	1.16	1.162	1.16	1.17	1.13	1.12	1.162		

DATE	TIME	MINUTES	551	552	568	569	466	467	468	404	485	39 K	IDLE	
7/25/10	2:00	00	113	112	112	113	114.7	112	115	110	118	115		
	3:00	180	107		107			102.5		112	113	105	76.5	Temp
	120	200	1.10	1.08	1.105	1.10	1.115	1.12	1.12	1.065	1.08	1.13		
	30	210	107.5	1.05	1.08	1.07	1.015	1.095	1.05	1.07	1.02	1.02		
	31	211								155				— 140.7
	41	221	104	101	105	104	105	103	111	116	105	105		
	44	224		100										— 149.7
	45	225			102									— 152.7
	53	233	100	99	97.5	100	100	102	102	98	99	104.5		— 153.3
	53	233						109	1.00					— 155.3
	54	234												— 157.3
	1:03	243	97.7	95	95	99	99.5	97	98.7	98		102		
	4:00	240	105		109			97.5		121	115	111.5	75	Temp
	15	255			50				50					— 156.3
	16	256								50				— 161.
	25	265		50								120		— 162.
	27	267									50			— 164.7
	28	268				50								— 165.7
	37	277	50											— 166.
	37	277										77		
	18	268		✓			77.7	65						— 168.3
	15	255	✓					50						— 170.3
	16	256				✓	50							
	20	260										85		
	27	277										74		
												50		— 184.7
	27	277	114.5		115.7			112.5		125	112	114	75.7	Temp

Calls 55, 552, 568, 569 were removed from this test and connected up on testing board for over-charge tests. See results in the individual record book. 7/26/09

DATE	TIME	MIN	AMPS	466	467	468	484	488	394	1064	
7/23/09		Charge		(190)	192	213	163	217			
	PM 4.55	3	30	114		127.5	128	115	76		Temp
	5.55	60	"	109.		122.2	120.5	111.	76		"
	6.55	120	"	104		117	117	108	76		"
	7.55	180	"	101.2		113.2	112	104.5	76.5		"
	8.55	240	"	99		110	111	104	77		"
	9.55	300	"	99		109.5	109.5	103.5	77.2		"
	10.55	360	"	97.5		109.5	109.5	104.5	77.5		"
	11.55	420	"	100.5		110	110	106	77.5		"
	11.55	420	"	122	122	128	128	128	128		P. 10
				Discharge							
7/24/09	AM 12.00	0	40	142	142	142	142	142	142		
	09	4	"	134	134	134	134	134	132		
	10	10	"	131.5	131.5	131.5	131.5	131.5	129		
	20	20	"	129	129	129	129	129	129		
	40	40	"	126	126	126.5	126.5	126.5	126.5		
	1.00	60	"		123.5		123	123	123	28	Temp
	1.00	60	"	122	122	122	122	122	122		
	20	80	"	121	122	122	122	122	122		
	40	100	"	119.5	120	121	118.5	118	120.5		
	2.00	120	"	118.5	119	120	118.5	118.5	119.5		
	2.00	120	"	1	114		115	113	110		Temp
	20	140	"	118	118	119	116	115	118		
	40	160	"	116	116.5	117.5	114	113	116.5		

DATE	TIME	MIN	AMB	462	467	463	469	428	398	IDLE	
7/29/65	AM 300	130	46	114	114	115	110	1036	1146		
	300	180	"		121		111	1165	1165	22	
	20	200	"	1162	1112	1125	106	165	112		
	36	216	"	1162	110	111	102	1017	116		
	37	217	"					1000			
	38	218	"				100				— 144.7
											— 145.3
	40	220	"	164	106	102	95	96	108		
	56	236	"	160	1625	1032	86	92	1045		— 153.3
	57	237	"			100					— 154.7
	58	238	"		100						— 159.
	400	240	"	92	96	60	50	70	100		— 160.
	400	240	"		108		122	120	114	28	dump
	01	241	"			56					— 160.7
	03	243	"					50			— 163.7
	10	250	"	70	58				96		— 166.7
	14	254	"	50							— 169.3
	20	260	"						84		
	30	270	"						50		— 180.

DATE	TIME	MIN	AMPS	466	462	468	409	482	398	DLR	
7/25/67	AM		Charge (191)			193	214	164	968		
	455	0	36		114		126	121	115	77	Temp
	555	60	"		108		122	120	112	77	"
	655	120	"		100		116	116	107	77	"
	755	180	"		99		112	110.5	103	75	"
	855	240	"		96.5		108.	107.2	100	75	"
	955	300	"		96		105.	105.5	97.2	74.2	"
	1055	360	"		96.		104.5	105	97.	74.	"
	1155	420	"		97.5		105	104.5	97.7	74.5	P.10
	1155	420	"								
				Stop. 36 hours charged.							
				Discharge							
7/26	AM										
	12:00	0	40		79.2		80	78.7	80.2	79.5	Temp
	12:00	0	"	130	131	130	128	127.5	130.5		
	:04	4	"	127.7	125	124	123	122.7	126.5		
	:10	10	"	122.5	123	122	121	120.2	124.7		
	:20	20	"	121	122.5	121	119.5	119	122.2		
	:40	40	"	119.5	120	120	117.7	116.5	120		
	1.00	60	"	117.2	119	119.7	116	115	119.		
	1.00	60	"		87		87.5	88	87.7	78.2	Temp
	:20	80	"	117.5	117	119	115	113.5	117.7		
	:40	100	"	117	117	118	113.7	112	117.		
	2.00	120	"	116	116.2	117	112	110.5	116		
	2.00	120	"	4	92.5		97	95.5	92.2	77.5	
	:20	140	"	114.2	115	115.5	113.7	108.	114.		

DATE	Time	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
		[illegible]											
7/24/11	2.43	1.59	40	11.5	112.5	112.7	107	105	112.3				
	.50	1.72	"	11.5	112.5	112.2	112	110.7	111				
	.59	1.67	"					133					— 117.7
	3.[illegible]	[illegible]	"	11.5	111	111.5	112	79	112.2				
	3.03	1.50	"		96		1.64	112	112.5	77			Zero
	.07	1.72	"				133						— 126.
	1.2	2.90	"	11.5	112.2	112.5	96	94	108				
	1.20	2.53	"	11.5	107	110	1.37	92	112				
	.24	2.10	"	11.70	112.2	112.2	88	88	1.3				
	.29	2.10	"	11.7									— 142.7
	.35	2.15	"				120						— 143.3
	.40	2.20	"	11.5	100	112	71.5	77	1.97				— 146.7
	.41/2	2.21	"			1.20							— 149.7
	.45	2.30	"				38						— 149.7
	.50	2.30	"	11.5	96.7			50	1.50				— 153.7
	.57	2.35	"		50								— 159.7
	4.35	2.40	"	66					88				
	4.50	2.43	"		107.2		114.7	111	112.7	76			Zero
	.57	2.43	"	60									— 162.
	.13	2.20	"						71.7				
	.19	2.39	"						50				— 172.7
	19	2.39	"		107		112.5	114	109	76			Zero

Cell #482 was connected in the Endurance Section after this discharge for 50 runs.

DATE	Time	[illegible]	[illegible]	442	442	447	464	404	444	294	1PLE	
7/24/09	[illegible]	[illegible]	[illegible]	179)	(192)		194	215	165	269		
	4:[illegible]	[illegible]	[illegible]	77		102.5		105.2	114.5	107	105.5	Temp
	5:[illegible]	[illegible]	[illegible]	79.5		102.7		111.5	112.2	114.5	.25	"
	[illegible]	120	"	81.5		95.2		100	111.	107.	107.7	"
	7:55	160	"	84.7		95.7		105.2	104.5	100.	.75	"
	[illegible]	[illegible]	"	87.2		94.		100.2	100.2	99.2	100.5	"
	9:55	[illegible]	"	90		95.5		104.	104.	99.2	100.7	"
	10:55	[illegible]	"	92.5		97.		106.5	106.	101.7	97.7	"
	11:55	12.	"	95.2		99.			107.	103.	99.5	"
	11:55	[illegible]	"	1.76	1.81	1.95	1.76	1.19	1.77	1.82		B. 10
				Discharge								
7/24/09	PM											
	12.00	0	40	1.42	1.45	1.43	1.42	1.40	1.38	1.432		
	.04	4	"	1.33	1.35	1.34	1.337	1.335	1.332	1.36		
	10	10	"	1.25	1.307	1.31	1.31	1.31	1.31	1.332		
	20	20	"	1.27	1.28	1.282	1.28	1.28	1.28	1.302		
	.40	40	"	1.242	1.25	1.24	1.245	1.245	1.242	1.262		
	1.00	60	"	1.22	1.22	1.227	1.237	1.22	1.215	1.235		
	1.00	60	"	1.01		1.035		1.11	1.10	1.06	1.15	Temp
	1.00	80	"	1.207	1.202	1.207	1.22	1.20	1.192	1.215		
	40	100	"	1.197	1.195	1.20	1.212	1.180	1.18	1.20		
	2.00	120	"	1.182	1.187	1.192	1.20	1.175	1.167	1.19		
	2.00	120	"	1.035		1.09		1.162	1.147	1.09	1.13	Temp
	20	140	"	1.18	1.18	1.18	1.19	1.16	1.155	1.18		
	40	160	"	1.187	1.187	1.16	1.17	1.132	1.12	1.16		

DATE	TIME	MIN	AIR	482	466	467	468	404	488	398	Adds Temp
7/26/09	BH 300	180	40	1.14	1.14	1.14	1.14	1.11	1.10	1.14	
	300	180	"	1.02		1.22		1.20	1.12	1.14	84.2 Temp
	20	200	"	1.02	1.02	1.14	1.22	1.06	1.08	1.14	
	33	210	"	1.08	1.07	1.08	1.02	1.00	1.07	1.08	— 143.
	34	214	"					1.00			
	36	216	"						1.00		— 144.
	40	220	"	1.02	1.04	1.07	1.08	.97	.98	1.02	
	46	230	"	1.03	1.00 / 1.00	1.02	1.03	.872	.92	1.04	— 154.
	47	231	"								— 156.7
	47	231	"								— 158.
	100	240	"	1.00	.932	1.00 / .967	1.00	.782	1.08		— 160.
	100	240	"	1.08		1.47		1.27	1.22	1.12	84.7 Temp
	102	242	"							1.00	— 161.3
	106	246	"						1.00		— 164.
	10	260	"	.977	.80	.92				.97	
	12	252	"			.80					— 168.
	15	255	"		.50						— 170.
	96	260	"	.92						.865	
	30	270	"	.850						.61	
	92	272½	"							.50	— 182.3
	40	280	"	.88							
	40½	280½	"	.80							— 187.

DATE	TIME	MINUTES	482	466	467	468	404	488	398	Delta T	
7/26/08		Change	180	1/93	182	216	166	270			
	4 AM	0 / 30	114		122		135	131	124	847	Temp
	5 AM	60	110		115		129	127	115	847	"
	6 AM	120	105		111		125	124	1130	845	"
	7 AM	180	103		102		119	121	111	845	"
	8 AM	240	100		104		117	115	108	845	"
	9 AM	300	99		104		115	116	102	837	"
	10 AM	360	97		1017		112	114	105	817	"
	11 AM	420	96.5		103.2		111	1135	1055	81	
	11 AM	420	175.5	172	177	174	176.7	174.2	176		
			Discharge								
7/27	12 AM	0 / 300	140	142	144	144	143	141	140	143	
		04	4	133.5	134	134	134	133.7	133.7	136	
		10	10	131	131	131.2	131.5	131.7	131.5	133.5	
		20	20	129	129	129	129	129	129	131	
		40	40	125	125	125.5	126	125	125	127	
		1.00	60	122.2	122.5	123	124	122	122	124	
		1.00	60	99		105.5		112.2	115.2	105.5	80 Temp
		1.20	80	121	121	121.5	123	120.5	120	122	
		1.40	100	120	120	120.5	122.5	119	115.5	121	
		2.00	120	114	115.5	119	120	117	116.5	119	
		3.00	120	100		104.7		115	117	105.5	80 Temp
		1.20	140	117	117.5	118	118.5	115.7	115	118	
		2.40	160	114.5	116	116.5	117	113.7	112	116.2	

| DATE | TIME | | |

Notebook, N-10-07-23

DATE	TIME	MIN.	AMP'S

July 23, 1910

46 Cells #210, #231 & #237

Cells taken from the Greyhound truck and mined at laboratory July 22, 1910.

These cells have had a service of 17,000 miles to date. These solutions were changed and renewed on March - 1910

Cells #210 #237 have been refilled once since being in service

Cell #231 had been refilled once since being the service but does appear a leak of F.P. factory so was examined and filled with 21% KOH + 11.2 g. LiOH per liter

Cells returned August 10, 1910.

DATE	TIME	MIN.	AMP'S

July 23, 1910

No. #4931

Cell was taken from one of the Adams Express Co. trucks - Brooklyn - Cleveland F.P. Brooklyn - was it had been in regular service about 7 months & shipped from C.F.P. factory Dec 28-09

This cell was taken to test its electrolyte as it was thought that ordinary drinking water had been used regularly for filling.

Fresh solution - 21% KOH + 11.2 g. LiOH per liter of factory, when cell was received from Brooklyn. After standing several days the solution was changed again, mixed with 21% KOH + 20 g. LiOH at the laboratory

A III

DATE	TIME	MIN.	AMP'S	Volts				Temp				Sale
				210	231	239	492	210	231	239	492	785
	P.M.			Discharge								
7/24/10	8.15	-	50	125	126	126	121					
	50	2	50	125	125	125	125					
	55	5	50	127	125	127	127					
	9.00	10	50	127	122	127	127					
	10	25	50	119	120	119	119					
	20	30	50	119	120	119	119	785	785	785	785	
	30	40	50	118	118	118	118					
	50	60	50	117	118	118	117					
	10.10	80	50	116	116	116	116					
	20	10.0	50	114	115	115	109					
	57	127	50	113	114	114	109					
	11.10	140	50	112	114	114	106					
	30	160	50	111	112	112	105					
	40	170					100					
	10	180	50	110	111	112	99					
	P.M.											
7/25/10	12.10	200	50	109	110	110	97					
	30	220	50	108	109	110	87					
	40	230	50	107	108	108	83	106	106	107	109	
	50	240	50	106	106	108	77					
	1.00	250	50				60	110				
	10	260	50	105	107	107						
	20	270	50	103	103	106						
	42	292	100		100	100						
	50	300	50	98	98	102						

A III

DATE	TIME	MIN.	AMP'S	V				T				Sale
	A.M.			210	231	239	492					
7/25/10	2.00	310	45	89	95	100						-232.5
	10	320	50	92	95	95						
	20	330	50	89	92	94						
	30	340	50	87	88	92						
	50	360	50	80	83	86						
	3.10	380	50	72	79	81						
	30	400	50	62	77	80						
	32	break	50				112					-301.8
	40	410	50		75	77						
	50	420	50		69	72						
	57	427	50				114					-320.2
	4.00	430	50		55							
	02	431	50				111					-323.6
	A.M.			Change #2.								
7/25/10	5.30	0	45			98	98	97	92	89	89	
	8.30	180	50			97	100	98				
	11.30	360	50			100	100	100	99			
	P.M. 2.30	540	50			103	106	105	105			
	5.30	720	50			108	111	110	110	98		
	8.30	900	50	114	117	116	109	111	110	109		-15 Ra
	P.M.			Discharge								
7/25/10	8.32	=	50	157	155	157	158					
	50	0	50	146	146	147	146					

A III

DATE	TIME	MIN.	AMP'S	V																			
	P.M.			210	231	239	4931																
7/25/10	8.37	2	45	140	140	140	140																
	40	5	"	1335	1372	1372	1338																
	45	10	"	1337	1342	1335	1336																
	55	20	"	1325	1332	1332	1334																
	9.05	30	"	1315	1325	1325	1325																
	15	40	"	1277	1297	1277	1280																
	35	60	"	1265	1267	1265	1267																
	55	80	"	1240	1245	1245	1255																
	10.15	100	"	1235	1237	1235	1234																
	35	120	"	1222	1222	1222	1222																
	55	140	"	1207	1211	1215	1215																
	11.15	160	"	1195	1197	1200	1197																
	35	180	"	1185	1185	1191	1181																
	55	200	"	1177	1178	1182	1178																
7/26/10	P.M. 12.15	220	"	1170	1161	1176	1165																
	35	240	"	1161	1161	1165	1162																
	55	260	"	1144	1144	1145	1145																
	1.15	280	"	1135	1137	1145	1142																
	35	300	"	1112	1115	1112	1112																
	55	320	"	1105	1102	1112	1111																
	2.15	340	"	1088	1088	1095	1077																
	35	360	"	1057	1057	1071	1022																
	38	364	"		109																		
	55	380	"	100	1042	1015	90																
	56	381	"			100																	

A III

DATE.	TIME	MIN.	AMP'S	V																			
	A.M			210	231	239	4931	210	231	239	4931												
7-26-10	3.05	390	45	97	95	97	66																
	.09	394					50																
	.15	400	"	915	88	90																	
	.25	410	"	857	765	795	—																
	.35	420	"	835	617	50																	
	.36	421	"		50																		
	.40	425	"	50				114	116	113													
	A.M																						
7-26-10	6.35	0	45					95	90	90	87	25											
	10.56	255	"					92	88.2	97	86.7												
	P.M. 12.35	360	"					102	105	1045	1035	89											
	3.35	540	"					107	110	110	110	98											
	6.35	720	"					104	112	112	112	95											
	9.36	900	"	1762	1757	1757	1815	112	115	1145	1137												
	P.M.																						
7-26-10	9.38	—	OFF	1.55	1.55	1.542	1557																
	40	0	45	146	1457	146	146																
	42	2	"	1402	1400	1400	1405																
	45	5	"	1385	1382	1385	1400																
	50	10	"	1375	1362	1362	138																
	10.00	20	"	1344	1334	1334	1357																
	10	30	"	1317	1321	1315	1321																
	20	40	"	1300	1300	1300	1315																
	40	60	"	1272	128	1277	1285																

CHARGE No 3

DISCHARGE

A.III

DATE	TIME	MIN.	AMP'S	VOLTS				TEMPS					
	P.M			210	231	239	493	210	231				
7-26-10	11.00	80	45	1.25	1.26	1.255	1.26						
	20	100	"	1.235	1.242	1.237	1.245						
	40	120	"	122	121.7	120.2	122						
7-27-10	A.M. 12.00	140	"	120.5	121.7	121.7	122						
	20	160	"	119.7	120	120	120						
	40	180	"	119.5	119.7	120	120						
	1.00	200	"	118	118.5	118.5	118.5						
	20	220	"	117.7	118.5	118.5	118						
	40	240	"	118.5	118.7	117.7	118.7						
	2.00	260	"	118.7	118	118.5	118						
	20	280	"	118.5	118.5	118.7	118.5						
	40	300	"	118.5	118.7	118	118.7						
	3.00	320	"	111.7	112	112.5	112						
	20	340	"	109.7	110	110.7	110.5						
	30	350	"	108.5	109.7	110	110.5						
	40	360	"	108.5	108	108.5	108.5						
	45	365					100						
	50	370	"	108.5	108.5	108.5	108.5						
	4.00	380	"	108.5	108.5	108.5	108.5						
	01	381	"	100									
	4:05	385.6	"				50						
	07	387	"			100							
	08	388	"		100								
	10	390	"	98.5	98.7	98.5							
	20	400	"	90	93.5	93							
	30	410	"	82	86	85.5							
	40	420	"	50	76	50.7		111.2					

A.III

DATE	TIME	MIN.	AMP'S										
	A.M.			210	231	239	493						
7/27/10	4:01	421	45			50				116.5			-315.7
	4:02	422	"	-	50	-	-		115.7				-315.8
	A.M.												
7/27/10	6.10	0	45	Charge # 4					87	97	92	91.5	86
	9.10	180	"						100	102	101.5	77.5	86
	P.M. 12.10	360	"						98	102	101.5	110	
	3.10	540	"						104.7	104.7	106	103.2	91
	6.10	720	"						108	111.5	110	112	92.7
	9.10	900	"	176	178.5	177.7	180		107	105.5	107	109	79.5
													15.6
7/27/10	P.M.			Discharge									
	9.12	open		159	159	155	156						
	15	0	45	146	145	144.5	146						
	17	"	"	140	139.7	139.7	140						
	20	"	"	136.5	136.5	136.5	138						
	25	10	"	136	136	136	137.7						
	30	20	"	132.5	132.7	132	134.5						
	45	30	"	131	131.7	130.5	132.2						
	55	40	"	130	130	129.7	130						
	10.15	60	"	126.5	127	126.5	128						
	35	80	"	124.5	125.5	124.5	126						

A III

DATE	TIME	MIN.	AMP'S											
	P.M.			210	231	239	4/931							
7/27/10	10.55	100	45	1217	1222	1222	1222							
	11.15	120		1217	122	122	1222							
	35	140		1197	1197	120	1202							
	55	160		1182	1195	1197	1197							
7/28/10	12.15	180		115	1182	1185	1185							
	35	200		1177	1177	118	118							
	55	220		1162	1165	1175	1177							
	1.15	240		1157	116	116	116							
	35	260		1155	1157	1162	116							
	55	280		1137	1137	114	1142							
	2.15	300		112	112	1125	112							
	35	320		1102	1115	1117	1105							
	55	340		1082	1095	110	108							
	3.15	360		1057	1062	1065	1015							
	15	363					100							
	25	370		1022	1004	1042	90							
	35	380		1015	1022	1025	56							
	36	381					50							
	37	382		100										
	46	385			100	100								
	55	390		96	98	98								
	55	400		90	92	917								
	4.05	410		785	54	80								
	125	4125		50			1095							
	15	420			64	585								
	165	4125				50								
	22	427			50									

A III

5

DATE	TIME	MIN.	AMP'S											
				210	231	237	4731							
				Charge										
	P.M.													
7/28/10	6.55	0	45	89	94.5	89.7	104.7							
	8.55	120		95	93.5	93.5	84							
	11.55	360		100	99.2	99.7	100							
	2.55	540		102	103.7	103.2	113	92						
	5.55	720						110.2	112	112	113	127		
	8.55	900		112	114	113	114							
				116	116.2	117.7	118							
	P.M.			Discharge										
7/28/10	6.55	open		155.7	155.7	155.7	156							
	9.00	0	45	146.5	146.2	146	147.5							
	02	2		141.5	141.5	141.5	141.7							
	05	5		139	138.5	138.5	139.7							
	10	10		136.7	136.7	136.7	136.2							
	20	20		132.5	132.5	132.5	132							
	30	30		132	132.2	132.2	132.5							
	40	40		130	130.2	130	130.5							
	10.00	60		127.7	127.5	127.7	128.2							
	20	80		124.5	125.7	125.5	126							
	40	100		122.5	122.2	122.7	122							
	11.00	120		121.7	122.2	122.2	122.2							
	20	140		120.5	120.7	120.7	121							
	40	160		119.7	120	120	120							
	12.00	180		118.2	119.7	119.7	120							

A III

DATE	TIME	MIN.	AMPS		Volts								
				10	231	239	493						
7/29/10	12.20	200	45	115	115	115	115						
	40	220	"	116	117	117	117						
	1.00	240	"	116	116	117	117						
	20	260	"	115	116	116	116						
	40	280	"	115	115	116	116						
	2.00	300	"	115	115	114	115						
	20	320	"	115	116	115	115						
	40	340	"	110	111	111	109						
	3.00	360	"	105	105	105	100						
	.10	370	"	103	107	106	90						
		375					100						
	.20	380	"	100	106	106	100						
	.30	385	"	100									
	.40	390	"	95	101	100							
	.50	395	"		100								
	4.00	400	"	88	96	96	94						
	.50	410	"	75	90	87							
	.56	416	"	60									
	5.00	420	"		81	56							
	.05	425	"										
	.10	430	"		63	50							
	.15	435	"		50								
7-29-10	A.M.												
	7.00	0	45										
	10.00	3	"										
	P.M. 2.20	7	"	107	106	105	100	101	103	104	103		

DATE	TIME	MIN.	AMPS		Volts								
				10	231	239	493						
7-29-10	P.M.												
	2.23		45	137	135	135	135						
	25	0	45	142	142	142	142						
	27	5	"	137	138	138	140						
	30	5	"	132	135	135	136						
	35	10	"	133	134	134	136						
	45	20	"	133	132	132	134						
	55	30	"	131	130	130	132						
	305	40	"	130	127	128	130						
	25	50	"	132	125	125	127						
	45	80	"	124	124	124	124						
	405	100	"	123	123	123	125						
	25	120	"	121	121	122	123						
	45	140	"	120	120	120	122						
	505	160	"	118	118	119	121						
	25	180	"	117	117	117	120						
	45	200	"	116	116	116	120						
	605	220	"	114	114	114	118						
	25	240	"	112	115	117	117						
	45	260	"	105	101	102	112						
	48	262	"		100								
	51	265	"			100							
	55	270	"	103	93	95	107						
	58	275	"		90								
	605	280	"			90							
	15	285	"	104			102						

A III

DATE	TIME	MIN.	AMP'S	VOLTS 210	231	239	4921	TEMPS 210	231	239	4921	
7-29-10	PM 2.15	290	45	1412			114					
	.15	294	"	1.00								
	.25	300	"	975			112					-188
	.35	311	"	905								
	.35	311	"	880			1032					-223.2
	.45	310	"				1070					-240
	.55	222½	"				90					1113 -245.6
				Charge # 7								
7/30/10	PM .05	0	45	1457	1.00	1.00	1.02	1.06	1.05	1.037	1.045	
	.07	2	"	1.52	1.56	1.52	1555					
	.30	5	"	155	158	158	1565					
	.35	10	"	1.57	1.597	1.585	1.555					
	.45	20	"	1.597	1.61	1.604	1.622					
	.55	30	"	1.602	1.622	1.617	1.637					
	1.05	40	"	1.617	1.637	1.635	1.652					
	.25	60	"	1.642	1.66	1.657	1.642					
	.45	80	"	1.662	1.657	1.66	1.64					
	1.05	100	"	1.662	1.665	1.65	1.655					
	.25	120	"	1.662	1.657	1.657	1.65					
	.45	140	"	1.665	1.657	1.655	1.652					
7/30-10	AM .05	160	"	1.677	1.662	1.662	1.655					
	.25	180	"	1.672	1.66	1.660	1.657					
	.45	200	"	Convertor [illegible]			Tester had tripped out					
	1.05	220	"	1.677	1.677	1.677	1.665					

A III

7

DATE	TIME	MIN.	AMP'S	VOLTS 210	231	239	4921	TEMPS 210	231	239	4921	9 dec
7/30-10	AM .05	240	45	1.68	1.68	1.677	1.675					
	.15	260	"	1.682	1.682	1.68	1.65					
	.25	280	"	1.697	1.697	1.692	1.697					
	.25	300	"	1.697	1.70	1.697	1.702					
	.45	320	"	1.702	1.712	1.705	1.705					
	1.05	340	"	1.70	1.712	1.71	1.707					
	.25	360	"	1.70	1.72	1.72	1.76					
	.45	380	"	1.716	1.757	1.735	1.802					
	1.05	400	"	1.715	1.74	1.737	1.817					
	.25	420	"	1.722	1.755	1.757	1.835					-7R
				Discharge								
7/30/10	PM .28	Open		1.562	1.562	1.56	1.565					
	.30	0	45	1.48	1.465	1.462	1.482	90	91	96	94	
	.32	2	"	1.40	1.40	1.40	1.40					
	.35	5	"	1.38	1.377	1.38	1.38					
	.40	10	"	1.36	1.36	1.36	1.36					
	.50	20	"	1.327	1.325	1.325	1.327					
	5.00	30	"	1.315	1.305	1.307	1.312					
	.10	40	"	1.27	1.272	1.27	1.275					
	.30	60	"	1.262	1.255	1.262	1.275					
	.50	80	"	1.245	1.23	1.237	1.252					
	6.10	100	"	1.227	1.222	1.222	1.232					
	.30	120	"	1.205	1.22	1.22	1.232					

A III

DATE	TIME	MIN.	AMP'S	VOLTS 210	231	239	4931	TEMPS 210	231	239	4931	IRTe
	P.M											
	6.50	140	45	1.20	1.207	1.212	1.221					
7/30/10	7.10	160	"	(1.177)	1.187	1.19	1.200					
	.30	180	"	1.177	1.185	1.195	1.202					
	.50	200	"	1.162	1.176	1.182	1.195					
	8.10	220	"	1.152	1.175	1.175	1.182					
	.30	240	"	1.14	1.16	1.162	1.172					
	.50	260	"	1.15	1.147	1.147	1.157					
	9.00	280	"	1.095	1.115	1.127	1.132					
	.32	302	"	1.047	1.087	1.10	1.107					
	.40	310	"	1.022	1.08	1.08	1.092					
	.45	315	-	1.0								- 2.32.2
	.50	320	-									- 2.3.6.6
	HR	316	-				90					- 2.3.5.5
	50	320	-	994	1.005	1.005						
	10.00	330	-	925	1.000	1.002						- 2.4.7.2
	.01	331	-			100						- 2.4.9
	.02	332	-		100							- 2.4.7
	.03	333	-	30								- 2.3.7.6
	.10	340	-		945	937						- 2.3.7.6
	.15	3445	-			90						
	.15	3445	-		90							

OK 8/30/10

Ferrocyanide 3+ Am

Potassium, Ferricyanide

A III

8

DATE	TIME	MIN.	AMP'S	VOLTS 210	231	239	4931	TEMPS 210	231	239	4931	1012
	P.M											
7-31-10	Charge #8											
	8.20	0	45	1.48	1.566	1.567	1.582	835	835	837	842	835
	.22	2	"	1.58	1.617	1.615	1.60					
	.25	5	"	1.617	1.64	1.635	1.62					
	.30	10	"	1.637	1.66	1.645	1.645					
	.42	22	"	1.65	1.69	1.657	1.627					
	.50	30	"	1.657	1.695	1.662	1.70					
	9.00	40	"	1.677	1.705	1.695	1.692					
	.20	60	"	1.685	1.70	1.70	1.68					
	.40	80	"	1.702	1.702	1.697	1.677					
	10.00	100	"	1.70	1.68	1.682	1.662					
	.20	120	"	1.68	1.68	1.68	1.662					
	.40	140	"	1.68	1.677	1.677	1.662					
	11.00	160	"	1.685	1.682	1.682	1.672					
	.20	180	"	1.687	1.682	1.682	1.675	932	947	942	943	84
	.40	200	"	1.69	1.687	1.684	1.68					
	A.M											
8-1-10	12.00	220	"	1.687	1.682	1.682	1.682					
	.20	240	"	1.687	1.687	1.682	1.687					
	.40	260	"	1.692	1.692	1.685	1.687					
	1.00	280	"	1.70	1.697	1.687	1.702					
	.20	300	"	1.702	1.702	1.70	1.722					
	.40	320	"	1.705	1.715	1.702	1.74					
	2.00	340	"	1.717	1.715	1.71	1.722					

DATE	TIME	MIN.	AMP'S	V 210	V 201	V 209	V 1931	T 210	T 201	T 209	T 1931	210	201	209	1931	
	AM															
8-4-10	2.20	360	25	1.72	1.727	1.72	1.787									
	40	320	"	1.727	1.734	1.732	1.921									
	3.00	400	"	1.735	1.742	1.741	1.835									
	20	420	"	1.742	1.765	1.755	1.84	1.01	1.081	1.076	1.97	83				
	AM				DISCHARGE											
8-1-10	3.45	—	OPEN	1.567	1.567	1.565	1.575									
	25	0	45	1.461	1.461	1.46	1.47									
	47	2	"	1.401	1.401	1.401	1.405									
	30	5	"	1.385	1.381	1.381	1.382									
	35	10	"	1.344	1.34	1.342	1.362									
	45	20	"	1.337	1.332	1.337	1.34									
	55	30	"	1.317	1.307	1.307	1.317									
	4.05	40	"	1.297	1.297	1.297	1.301									
	25	60	"	1.265	1.267	1.267	1.281									
	45	80	"	1.242	1.245	1.242	1.26									
	5.05	100	"	1.223	1.223	1.223	1.242									
	25	120	"	1.205	1.222	1.22	1.23									
	45	140	"	1.197	1.207	1.207	1.221									
	6.05	160	"	1.182	1.195	1.197	1.217									
	25	180	"	1.175	1.192	1.192	1.214	1.075	1.083	1.075	1.07	1.192				
	45	200	"	1.165	1.183	1.183	1.205									
	7.05	220	"	1.165	1.179	1.175	1.182									
	25	240	"	1.158	1.175	1.167	1.18									

DATE	TIME	MIN.	AMP'S	V 210	V 201	V 209	V 1931	T 210	T 201	T 209	T 1931	210	201	209	1931	
	AM															
8-1-10	7.45	260	45	1.132	1.155	1.157	1.167									
	8.05	280	"	1.092	1.112	1.112	1.132									
	25	300	"	1.057	1.10	1.092	1.082									
	45	320	"				1.00									238.5
	9.05	340	"	1.012	1.065	1.06	.962									243.
	25	360	"	1.00												
	.52	365	"				.90							101		244.5
	03	330	"	9.95	1.002	1.05										
	9.05	332	"			1.00										252
	05	332	"		1.00											253.5
	45	340	"	.96	.983	.97										
	10	345	"	.96				106								258
	15	350	"		.992	.915										
	17	352	"			.90								1055		264
	23	355	"		90					109						268.5
						Charge #9										
	AM															
8-1-10	10.45	0	45	1.345	1.377	1.382	1.397	93	89	89.5	88	99				
	47	2	"	1.352	1.55	1.377	1.38									
	50	5	"	1.372	1.561	1.392	1.392									
	55	10	"	1.357	1.387	1.402	1.422									
	11.05	20	"	1.612	1.62	1.622	1.662									
	15	30	"	1.624	1.64	1.64	1.672									
	25	40	"	1.651	1.667	1.66	1.68									
	45	60	"	1.665	1.672	1.68	1.66									
	PM															
	12.05	80	"	1.68	1.662	1.677	1.685									
	25	100	"	1.677	1.66	1.68	1.692									
	45	120	"	1.67	1.67	1.66	1.677									
	1.05	140	"	1.67	1.66	1.67	1.685									

A III

DATE	TIME	MIN.	AMP'S	V O L T S 210	231	239	4981	210	231	239	4981	STOP
	PM											
8-1-10	125	120	56	165	166	166	166					
	45	180	"	165	166	166	166					
	205	200	"	165	166	166	166					
	25	220	"	165	166	166	167					
	45	240	"	168	167	167	168					
	305	260	"	168	167	167	169					
	25	280	"	168	168	168	172					
	45	300	"	168	168	167	172					
	405	320	"	169	169	169	172					
	25	340	"	170	170	170	172					
	45	360	"	170	170	170	175					
	506	380	"	171	172	172	177					
	25	400	"	172	172	172	182					
	45	420	"	174	176	176	183	100	108	101.5	102	7hm
8-1-10	PM			Lockange								
	548	Open	155	156	155	156						
	550	0	45	147	146	146	147					
	552	2	"	150	150	150	152					
	555	5	"	158	158	158	158					
	600	10	"	161	161	161	165					
	615	25	"	120	122	122	127					
	625	35	"	120	120	120	121					
	635	45	"	120	120	120	120					

A III

DATE	TIME	MIN.	AMP'S	210	231	239	4981	210	231	239	4981	Tale
8/1/10	6.45	55	45	127	128	127	127					
	7.05	75	"	125	126	126	127					
	.25	95	"	120	121	121	122					
	.45	115	"	127	122	122	127					
	8.05	135	"	120	121.5	121.5	122					
	.25	155	"	118.5	120	120	122					
	.45	172	"	118	119.7	119.7	120.5	108	108.5	108.5	108.5	84
	9.05	195	"	116.1	118	118	119.7					
	.25	215	"	115.5	116.5	117.5	118.5					
	45	235	"	114	115.7	116	117.7					
	1005	255	"	112.5	114.2	114.2	116					
	25	275	"	110	112.5	112.5	114					
	35	285	"	109.7	111.5	111.5	114					
	45	295	"	108	110.5	110.5	113.5	106	108.5	110	108.5	
	1100	310	"	105.5	108.5	110	107.7					
	05	315	"	104.5	108.5	108.7	106.7					
	12	322					100					-241.5
	15	325	"	100.5	108.7	108	106					
	17	327	"	100								-237
	23	333	"				90					-230.1
	25	335	"	96.5	102	102						
	27	337	"		100							-231.1
	29	339	"		100							-242
	35	345	"	98.7	98.7	98.7						
	37	347	"	90								-237.8
	45	355	"		90.5	90.5						-242
	50	360	"		90			111	115	115	108	-242

A III

DATE	TIME	MIN.	AMP'S	VOLTS 210	231	239	492	TEMPS 210	231	239	492	DATE
				CHARGE #10								
	A.M											
8-2-10	1.50	0	45	1.42	1.425	1.502	1.567	92	95	95	91	82.5
	55	2	"	1.545	1.545	1.56	1.595					
	55	5	"	1.582	1.582	1.581	1.62					
	2.00	10	"	1.605	1.602	1.607	1.662					
	10	20	"	1.627	1.64	1.627	1.665					
	20	30	"	1.64	1.661	1.642	1.70					
	30	40	"	1.647	1.662	1.662	1.682					
	50	60	"	1.68	1.682	1.685	1.663					
	3.10	80	"	1.68	1.665	1.672	1.655					
	30	100	"	1.67	1.662	1.665	1.657					
	50	120	"	1.682	1.665	1.667	1.662					
	4.10	140	"	1.672	1.665	1.657	1.662					
	30	160	"	1.675	1.662	1.662	1.662					
	50	180	"	1.675	1.667	1.667	1.667	92.2	96.2	95	92	80.2
	5.10	200	"	1.68	1.672	1.672	1.675					
	30	220	"	1.672	1.677	1.68	1.682					
	50	240	"	1.682	1.682	1.682	1.692					
	6.10	260	"	1.687	1.682	1.682	1.69					
	30	280	"	1.675	1.672	1.677	1.67					
	50	300	"	1.69	1.69	1.687	1.82					
	7.10	320	"	1.693	1.693	1.69	1.777					
	30	340	"	1.702	1.702	1.70	1.757					

A. III

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DATE	TIME	MIN.	AMP'S	VOLTS 210	231	239	492	TEMPS 210	231	239	492	DATE
	AM											
8-2-10	7.50	360	45	1.72	1.725	1.72	1.805					
	8.10	380	"	1.732	1.732	1.73	1.825					
	30	400	"	1.732	1.72	1.733	1.84					
	50	420	"	1.72	1.72	1.725	1.845					
				DISCHARGE								
8-2-10	AM 8.55	—	OPEN	1.577	1.577	1.575	1.58					
	55	0	45	1.47	1.47	1.462	1.48	96	98.5	99	97.2	80
	57	2	"	1.415	1.412	1.417	1.46					
	9.00	5	"	1.40	1.392	1.382	1.375					
	05	10	"	1.36	1.37	1.362	1.375					
	15	20	"	1.345	1.34	1.342	1.345					
	25	30	"	1.32	1.317	1.317	1.322					
	35	40	"	1.305	1.302	1.302	1.317					
	45	50	"	1.287	1.277	1.275	1.29					
	10.15	80	"	1.242	1.252	1.255	1.272					
	35	100	"	1.22	1.225	1.222	1.242					
	55	120	"	1.202	1.22	1.217	1.235					
	11.15	140	"	1.20	1.21	1.205	1.222					
	35	160	"	1.197	1.20	1.197	1.215					
	55	180	"	1.18	1.187	1.187	1.22	101	103.5	101	98.5	81
	PM 12.15	300	"	1.165	1.175	1.18	1.197					
	35	220	"	1.155	1.162	1.162	1.185					
	55	240	"	1.155	1.16	1.16	1.177					

A III

DATE	TIME	MIN.	AMP'S	Volts 310	321	329	1931	Temps 310	321	329	1931	
5-2-10	PM 1.15	260	45	112.5	1145	1152	1162					
	.35	280	–	110	112	112	114					
	.55	300	–	107.7	110.1	110	111					
	2.05	310	–	104	107.5	106.5	105.7					
	15	318	–				100					
	15	320	–	101.7	105	104.5	98					
	17	324	–	100								
	34	339	–				90				104.5	2667
	35	330	–	99	100.5	100.5						2623
	35	3345	–			100						2581
	35	3345	–		100							
	35	340	–	94	95.5	95		102				2613
	45	345	–	90								
	45	350	–		95	93				111.7		2651
	45	3535	–			90						
	55	358	–	—	90			—	114			2685
				Charge #11								
8/2/10	PM 1.55	=	45	164	166	164	165	97	99.7	94	88.5	84
	.55	7		156	156	157	158					
	.55	8		154	156	156	160					
	.55	10		158	158	160	163					
	2.05	20		160.5	162	162	164					
	.35	30		162	163	163	164					
	.55	40		164	164	164	165					
	3.05	50		165	165	165	165					

A III

DATE	TIME	MIN.	AMP'S	Volts 310	321	329	1931	Temps 310	321	329	1931	
8/2/10	PM 5.45	80	45	165	166	164	165					
	6.05	100	"	165	165	166	165					
	.25	120	"	165	166	166	166					
	.45	140	"	166	165.5	165	166					
	7.05	160	"	166	165.5	167	167					
	.25	180	"	166	165.5	166	166	95	95	96	92	82
	.45	200	"	166	166	166	165					
	8.05	220	"	167	166	166	168					
	.25	240	"	168	167	167	169					
	.45	260	"	168	168	168	170					
	9.05	280	"	169	169	169	175					
	.25	300	"	170	170	169	175					
	.45	320	"	170	170	170	175					
	10.05	340	"	171	171	171	181	94	97	94	92	79
	.25	360	"	172	172	172	181					
	.45	380	"	173	174	173	183					
	11.05	400	"	174	174	175	184					
	.25	420	"	174	178	175	184					
	.45	440	"	174	178	175	184	Stop on the 10th				
8/3/10	AM 12.05	460	"	174	175	178	184	Volt readings				
	.25	480	"	175	177	178	184					
	.45	500	"	175	177	178	184					
	1.05	520	"	175	177	178	184	101	104	106	102	91

A III

DATE	TIME	MIN.	AMP'S	V 210	231	239	495	210	231	239	495	210	231	239	495
	A.M														
8-2-10	125	540	45	1.782	1.795	1.782	1.782								
	45	600	"	1.782	1.794	1.777	1.84								
	205	680	"	1.78	1.79	1.777	1.84								
	25	700	"	1.782	1.795	1.78	1.84								
	45	720	"	1.782	1.795	1.78	1.84								
	305	740	"	1.782	1.792	1.78	1.837								
	25	760	"	1.78	1.795	1.78	1.835								
	45	780	"	1.78	1.787	1.775	1.835								
	405	800	"	1.777	1.795	1.787	1.835								
	25	820	"	1.782	1.777	1.782	1.82								
	45	840	"	1.787	1.78	1.782	1.82	1.66	1.10	1.07	1.065				
	505	900	"	1.78	1.787	1.775	1.835								
	25	920	"	1.782	1.782	1.77	1.822								
	45	940	"	1.782	1.79	1.77	1.822								
	605	960	"	1.78	1.785	1.775	1.822								
	25	980	"	1.78	1.782	1.775	1.822								
	45	1000	"	1.78	1.782	1.777	1.822								
	705	1020	"	1.782	1.79	1.78	1.822		1.8 hrs						
	25	1040	"	1.775	1.78	1.762	1.82	1.67	1.101	1.076	1.062	1.12			
				Discharge											
	PM														
8-3-10	728	—	0	1.555	1.555	1.552	1.812								
	30	0	75	1.462	1.47	1.467	1.462								
	45	20	"	1.462	1.465	1.462	1.462								

A III

11

DATE	TIME	MIN.	AMP'S	V 210	231	239	495	210	231	239	495
	PM										
8-3-10	735	5	45	1.362	1.362	1.362	1.365				
	40	10	"	1.365	1.362	1.362	1.365				
	50	20	"	1.367	1.367	1.367	1.365				
	800	30	"	1.32	1.325	1.322	1.32				
	10	40	"	1.31	1.315	1.312	1.32				
	30	60	"	1.28	1.285	1.28	1.29				
	50	80	"	1.22	1.22	1.222	1.265				
	910	100	"	1.237	1.247	1.237	1.255				
	30	120	"	1.22	1.225	1.22	1.25				
	50	140	"	1.25	1.22	1.22	1.25				
	1010	160	"	1.20	1.215	1.215	1.22				
	30	180	"	1.177	1.202	1.20	1.242	1.087	1.12	1.085	1.05
	50	200	"	1.185	1.192	1.197	1.20				
	1110	220	"	1.177	1.187	1.19	1.19				
	30	240	"	1.17	1.18	1.18	1.184				
	50	260	"	1.16	1.175	1.18	1.18				
	PM 1210	280	"	1.142	1.16	1.162	1.165				
	30	300	"	1.132	1.15	1.15	1.15				
	50	320	"	1.12	1.13	1.132	1.15				
	110	340	"	1.09	1.115	1.12	1.16				
	30	360	"	1.062	1.093	1.095	1.155	1.12	1.145	1.12	1.09
	50	380	"	1.055	1.07	1.082	1.07				
	50	400	"	1.055	1.065	1.06	1.05				
	50	420	"	1.05	1.05	1.05	1.05				
	50	440	"	1.05	1.05	1.05	1.05				

A III

DATE	TIME	MIN.	AMP'S	V 210	V 251	V 299	V 4251	L 210	L 251	L 299	L 4251	T 210	T 251	T 299	T 4251	
	PM															-2932
8/3/10	2.01	3.91	45		100				70							113.85
	.07	4.97	"													-2951
	.10	4.00	"	914	98	100										-3.00
	.20	4.10	"	80	94	95										
	.33	4.23	"	71	88	88						115				-3.21
	.37	4.27	"	80												
	.40	4.30	"		84	82										
	.53	4.40	"		78	74/70										
	.55	4.45	"												115	-3.36.3
	3.00	4.50	"		60											
	.05	4.55	"		50							117				-3.39.3 .85

Charge #12

DATE	TIME	MIN.	AMP'S	V 210	V 251	V 299	V 4251	L 210	L 251	L 299	L 4251	T 210	T 251	T 299	T 4251	
	P.M.															
	3.45	—	45									92	94	100	89	85
8/3/10	6.45	3	"									95	101	101	94	87
	9.45	6	"									1025	1035	100	99	87
	AM															
8/4/10	12.45	9	"									1005	105	1032	102	82
	3.45	12	"									104	108	106	106	82
	6.45	15			1235	1187	1172	1182		1162	102	106.5	110.4			81
																-1.07

DISCHARGE

DATE	TIME	MIN.	AMP'S	V 210	V 251	V 299	V 4251	L 210	L 251	L 299	L 4251	T 210	T 251	T 299	T 4251	
	AM															
8-9-10	6.48	—	0	1.5	157	1.57	1.57	1.57								
	.50	0.	35	1.52	148	1.53	1.40									
	.53	2	"	142	142	1.45	1.42									

A III

Cells Temps

DATE	TIME	MIN.	AMP'S	210	251	299	4251	210	251	299	4251	cells
	AM											
8-4-10	6.55	5	45	1297	1295	1295	1295					
	7.00	10	"	1277	1255	1252	1250					
	10	20	"	1245	1242	1242	1242					
	20	30	"	1232	1232	1232	1232					
	30	40	"	1202	1202	1202	1202					
	50	60	"	1177	1162	1162	1162					
	8.10	80	"	1125	1127	1127	1122					
	30	100	"	1122	1122	1122	1122					
	50	120	"	1122	1122	1122	1122					
	9.10	140	"	1202	1215	1212	1217					
	30	160	"	1195	1205	1207	1212					
	50	180	"	1172	1172	1172	1175	1.07	1.07	1.06	1.01	-7.75
	10.10	200	"	1172	1175	1182	1182					
	30	220	"	1172	1175	1175	1175					
	50	240	"	1172	1172	1175	1175					
	11.10	260	"	1172	1172	1172	1172					
	30	280	"	1172	1172	1172	1172					
	50	300	"	1172	1172	1172	1172					
	AM 12.10	320	"	1175	1172	1172	1172					
	30	340	"	1.09	1.11	1.12	1.10					
	50	360	"	1.08	1.09	1.09	1.08					
	1.10	370	"	1.09	1.09	1.09	1.09					-7.77.85
	.10	380	"	1.08	1.08	1.08	1.08					
	.50	390	"	1.09								

AIII

DATE	TIME	MIN.	AMP'S	Volts 210	231	239	4931	Temps 210	231	239	4931	IDLE
8-4-10	PM 1.20	2.50	46	98	103	1025	56 50	1035	111	110	107	81
	.22½	392½	'								107	-294.3
	25½	395½	'			100						-296.6
	28	398	-		100							-298.5
	30	400	-	915	995	98						
	40	410	"	837	94	922						
	.50	420	-	56	86	82		111.2			-	-316.1
	51½	421½	-	50								
	2.00	430	-		762	65						
	.03½	433½	-			50				1125		-325.1
	.09½	439½	-		50				1135			-329.6

Charge # 13

DATE	TIME	MIN.	AMP'S	Volts 210	231	239	4931	Temps 210	231	239	4931	IDLE
8/4/10	PM 3.30	0	1.5					88	84	94	92	832
	6.30	3	"					923	94	95	93	84
	9.30	6	"					952	97	962	94	835
8/5/10	AM 12.30	9	"					95	975	952	945	80
	3.30	12	"					1015	105	1022	1017	812
	6.30	15	"	1785	1782	1775	1825	101	107	105	108	817
										-158		

Discharge

DATE	TIME	MIN.	AMP'S	Volts 210	231	239	4931
8/5/10	AM 6.27	Open		1571	1575	157	158
	.35	0	45	149	1475	1475	1482
	.37	2	"	141	1405	1405	1405
	.40	5	"	1387	1367	1387	1385

AIII

13

DATE	TIME	MIN.	AMP'S	Volts 210	231	239	4931	Temps 210	231	239	4931	Idle
8/5/10	AM 6.45	10	45	1275	1265	1265	1267					
	55	20	"	1.34	1.34	1.34	1.347					
	7.05	30	"	1.327	1.322	1.32	1.327					
	15	40	"	1.30	1.30	1.30	1.302					
	35	60	"	1.275	1.28	1.277	1.282					
	55	80	"	.252	1.257	1.255	1.26					
	8.15	100	"	1.23	1.24	1.24	1.24					
	35	120	1	1.22	1.225	1.22	1.222					
	55	140	1	1.202	1.215	1.217	1.217					
	9.15	160	"	1.20	1.205	1.205	1.205					
	35	180	1	1.185	1.20	1.20	1.20	101.2	104	105	102.5	82.2
	55	200	"	1.18	1.19	1.19	1.185					
	10.15	220	.	1.17	1.18	1.18	1.18					
	.35	240	.	1.162	1.18	1.18	1.175					
	.55	260	.	1.16	1.165	1.17	1.16					
	11.15	280	.	1.145	1.16	1.16	1.15					
	.38	303	.	1.128	1.142	1.142	1.122					
	.55	320	.	1.112	1.135	1.135	1.115					
	PM 12.15	340	.	1.09	1.115	1.12	1.08					
	.25	350	.	1022	1105	111	105					
	.35	360	.	1062	1095	110	102					
	.40½	365	.				100			-274.1		
	.44	370	-	1047	1.082	1065	967					
	.55	380	1	1.015	1.065	1.065	935					
		386	.	1.00						-289.5		

A III

| DATE | TIME | MIN. | AMP'S | | |

DATE	TIME	MIN.	AMP'S

November 22d 1910.

A P cell #1682

Regular cell, of average capacity, from stock of Thomas Battery Co. sent to laboratory for special test for short test (see page 85 - Miscellaneous Readings, Vol. II)

This cell was charged 2500 times and then examined for the last time was found that the bottom had sagged about 1/16" out of line.

This cell had the regular wire frame insert of A. P. R. A. Co.

A I (2)

DATE	TIME	MIN.	AMP'S	V.	T.
				1672	1682
				Charge #4	
11-2-10	P.M.				
	1.10	0	6.		75.5
	P.M.				
11-3-10	1.10	3	.		82
	4.10	6	.		95.5
	7.10	9	.		99.2
	10.10	12	.		103
	P.M.				
	11.0	15	.	1787	109
				Discharge	
	P.M.				
11-3-10	113	—	0/100	1542	
	15	0	60	145	
	17	2	—	1365	
	20	5	—	135	
	25	10	—	1335	
	35	20	—	127	
	45	30	—	1287	
	55	40	—	1277	
	215	60	.	1259	
	35	80	.	1215	
	55	100	.	1217	
	315	120	—	1202	
	35	140	—	1197	
	55	160	.	1187	

13 Ah

AV (2)

DATE	TIME	MIN.	AMP'S	Volts	Temps
	PM			1162	1162
1/2	11.15	180	60	1167	
	.15	200	"	116	1045
	.35	220	"	1162	
	5.15	240	"	1161	
	.35	260	"	1157	
	.55	280	"	1160	
	6.15	300	"	1112	
	.35	320	"	1082	
	.45	330	"	1072	
	.55	340	"	1059	
	7.05	350	"	1057	
	.15	360	"	1052	
	.25	370	"	76	
	.35	380	"	-24	1105
	P.M			CHARGE #5	
11-3-10	10.20	0	60	97	
11-4-10	1.20	3	"	915	
	4.20	6	"	905	
	7.20	9	"	94	
	10.20	12	"	965	
	AM 1.20	15	"	100	1077

-357

OK

AV

DATE	TIME	MIN.	AMP'S	V-	T-
				1152	1152
				Discharge	
11-4-10	PM 123	—	0	1147	
	.25	0	60	1145	
	.27	2	"	1375	
	.30	5	"	1307	
	.35	10	"	134	
	.45	20	"	1311	
	.55	30	"	1292	
	2.05	40	"	1282	
	.25	60	"	126	
	.45	80	"	124	
	3.05	100	"	1223	
	.25	120	"	1215	
	.45	140	"	120	
	4.05	160	"	119	
	.25	180	"	118	104
	.45	200	"	117	
	5.05	220	"	1162	
	.25	240	"	1147	
	.45	260	"	1142	
	6.05	280	"	1137	
	.25	300	"	1115	
	.45	320	"	1087	

A V ⑥

DATE	TIME	MIN.	AMP'S	V	T	
			1182	1682-2012		
11/9/10	6	65	339	1075		
	7	55		1055		
	15			1017		-3553
	18	353		100		
	25	360		970		
	31½	369½		56	1072	-3695

114-10 Discontinued from Board and set aside.

an average signal between could give it.

Test was given 4.35 ex hours with cells in the following positions and in directly marked

After this test, the tray had given 100 ride hours.

DATE	TIME	MIN.	AMP'S

November, T.C. 1910

G. E. Cells

#1315 - #1670 - #1696

This set of cells were taken from the regular stock of C.F.P.C.

Filled with 21% V.H. + P.G. 1.10 per cell, & had the three regular forming runs of Commercial Testing Department.

Cells were mounted in a special tray designed by T.A.C. which in turn was mounted on a four wheeled truck in such a way as to hold it upright and also place it a small amount of play with longitudinal and side line.

Truck was run a distance of 10 feet into a concrete wall, with all the force

— See Next Page —

AII (2)

DATE	TIME	MIN.	AMP'S	1315 V	1670 V	1696 V	1315 T	1670 T	1696 T
	AM			Charge #4					
	5.00	0	60		872	775	767		
11/1/10	8.00	3	"		86	86	86		
	11.00	6	"		925	915	925		
	PM 2.00	9	"		1805	945	94		
	5.00	12	"		99	945	977		
	8.00	15	"	18	(807)	977	1005	972	
	PM			Discharge					
11/7/10	8.00	0 (new)		155	155	155			
	05	0	60	1414	1414	1414			
	07	2	"	136	136	137			
	10	5	"	134	134	135			
	15	10	"	133	133	135			
	25	20	"	131	131	1360			
	35	30	"	1295	1295	1292			
	45	40	"	1282	1285	1282			
	9.05	60	"	1245	1255	1245			
	25	80	"	1235	1237	1225			
	45	100	"	119	120	119			
	10.05	120	"	1185	1195	118			
	25	140	"	1185	118	1182			
	45	160	"	118	1172	118			
	11.05	180	"	116	1167	116	1162	1161	

AV (2)

DATE	TIME	MIN.	AMP'S	1315 V	1670 V	1696 V	1315 T	1670 T	1696 T	
	PM									
11.7.10	11.25	240	60	1.155	1.155	1.162				
	45	220	"	1.167	1.167	1.167				
11.8.10	AM 12.05	240	"	1.14	1.137	1.14				
	25	260	"	1.122	1.122	1.167				
	45	280	"	1.117	1.117	1.125				
	1.05	300	"	1.16	1.097	1.112				
	25	320	"	1.062	1.057	1.097				
	35	330	"	1.097	1.052	1.082				
	45	340 (345)	"	1.037 (1.04)	1.04	1.082				343.0
	55	350	"	962	100	1.057				350.0
	2.05	360	"	937 (1.02) 3.67	96	1.037	1.067	1.082	1.037	
	15	370	"		942	1.02 (1.05)				367.5
	25	380	—		507	977				373.0
	27	382			50					380.0
	35	390	"			985		1117		
	44	399				50			1.02	377.5
	AM			CHARGE #5						
11.8-10	7.00	0	60			90	92	905		
	10.00	3	"			945	96	95		
	PM 1.00	6	"			96	97	955		
	4.00	9	"			1.01	1.01	99		
	7.00	12	"			1.027	1.03	1.01		
	10.00	15	"	1.037	1.017	1.02	1.00	1.00	977	

A V

DATE	TIME	MIN.	AMP'S	Volts 1315	Volts 1570	Volts 1696	Temp 1315	Temp 1670	Temp 1696
11-8-10	7PM			Overnight					
	10 83	0/Zero		158	158	158			
	05	0	60	146	145	145			
	07	2	"	1375	1377	1375			
	10	5	"	137	137	137			
	15	10	"	137	137	137			
	25	20	"	1312	1317	1315			
	35	30	"	1292	1298	1295			
	45	40	"	128	128	128			
	11 25	60	"	124	124	1242			
	25	80	"	1225	1225	1215			
	45	100	"	1215	1215	1215			
11-9-10	AM 12 15	120	"	1202	1202	1202			
	25	140	"	1192	1192	1195			
	45	160	"	1177	1182	1179			
	1 05	180	"	1162	1165	1167			
	25	200	"	1162	1162	116			
	45	220	"	1155	1147	1155			
	2 05	240	"	1149	1142	1152			
	25	260	"	1135	1135	1142			
	45	280	"	1122	112	1135			
	3 05	300	"	1095	1095	1115			
	15	310	"	1089	1092	1102			

A V (2)

DATE	TIME	MIN.	AMP'S	Volts 1315	Volts 1570	Volts 1696	Temp 1315	Temp 1670	Temp 1696	
11/9	AM 3 25	320	60	1067	1075	1097				
	55	350 (335.5)	"	1045 (1055)	1055	1080				-338.5
	45	340 (343.5)	"	982	1022 (1000)	1075				-343.5
	55	355 (353)	"	635 50	745	1055				-353.0
	405	360 (366.0)	"	-285	782 (88)	1125 (1155)				-366.0
	15	370 (367.0)	"	—	-165	96	1152	115		-367.0
	18	373	"			925				
	21	376				85				
	24	379				72				
	27	382				537				
	27½	383½				50			1122	-382.5
					×	○				

O.K. TJS

11/9/10 All # 1315 was cut open for inspection and was found to be intact except for break in grid at lower corner of one plate. No loose or injured tubes or pockets could be found.

Groups were dunked in distilled water about 40 hours, then dried over Sunday in drying oven. Next then [illegible]

DATE	TIME	MIN.	AMP'S

DATE	TIME	MIN.	AMP'S
11.21.11	PM		Received
			Five H4 cells for Quality Service
			as loaned by E. P. Ross Jr.
H.22.11	PM		Cells were tested for height of solution
			& distilled H_2O added as
			follows.
			2046 200 C.C.
			2140 197 C.C.
			1792 115 C.C.
			2168 197 C.C.
			2078 195 C.C.
			They were then connected to Board
			& stood 36 hours over Sunday
			and then discharged fully

A IV

DATE	TIME	MIN.	AMP'S	Volts 1792	2046	2078	2140	2168	Temp 1792	2046	2078	2140	2168
	A.M.			Weather					12				
A.M. 11	2.55	Open		134	133	130	130	133	78	76	77	77	78
	3.00	0	30	116	94	92	94	88					
				(80)									
	.02	2	"	77	80	81	82.5	81.5			-.5		
	.05	5	"	78.5	80	80.5	82	80.5					
	.10	10	"	80.5	81	82	81	81					
	.20	20	"	82	82	82	82	81.7					
	.30	30	"	82	82	82	82	82					
	.40	40	"	80	80	80.5	80.5	80.7					
	.50	50	"	79	79	79.7	79.5	79.7					
	1.00	60	"	78	78	78	78	78.2					
	.10	70	"	×	×	×	×	×					
	.20	80	"	75.2	75.5	76	77.7	77.2					
	.30	90	"	72	69.7	70	69	71					
	.40	100	"	70	66.2	67.2	66.2	68.5					
	.50	110	"	61	62	62.2	62.2	64.5					
	2.00	120	"	65.7	56.5	58	58.7	60					
	10	130	"	63.5	57.2	53	57.2	56		90		89	
	15	133			50	—	50	—				66.5	
	15	135	"	60		56		56					
	20	140	"	(V)		50		56			91	70	
	22	142	"	62		—						79.5	
	27	147	"	—	—	—	—	50				78	

A IV

DATE	TIME	MIN.	AMP'S	Volts					T	T	T	T
	A.M.			192	204	198	190	168				
4/24/11.	5:00	160	30	111								
	47	167	"	50								
	A.M.			Charge					13			
	600	0	30	111	120	120	122	118	93	94	93-90	
	900	3	"						97	96	96	96-95
	1200	6	"						98	98	97	98-94
P.M.	300	9	"						95	97	97	98-95
	600	12	"						98	100	100	100-99
	900	15	"	182	183	180	181	184	98	100	100	98-97
				Discharge								
	903	0	30	152	150	150	150	150				
	07	2	"	150	149	148	148	148				
	07	2	"	140	140	138	139	140				
	10	5	"	137	137	136	136	137				
	15	10	"	135	134	134	134	134				
	25	20	"	134	133	133	133	133				
	35	30	"	132	131	131	131	131				
	45	40	"	130	129	129	129	129				
	1005	60	"	126	126	126	126	126				
	25	80	"	125	124	124	124	125				
	45	100	"	123	123	123	123	123				
	1105	120	"	121	121	121	121	122				

H IV

DATE	TIME	MIN.	AMP'S	Volts					Temp			
				192	204	198	190	168	1	2	3	4 5
4/24/11	7PM											
		140	30	120	120	120	120	117	120			
	45	160	"	118	118	118	118	119				
4/25/11	AM 12:05	180	"	117	117	117	117	117				
	25	200	"	116	116	116	116	116				
	45	220	"	114	114	114	114	114				
	1:05	240	"	113	112	112	112	113				
	25	260	"	111	110	111	109	111				
	35	270	"	-	-	-	107	-				
	45	280	"	105	105	106	106	105				
	55	290	"	104	104	104	104	104				
	2:05	300	"	103	104	104	103	104			152	
	15	310	"	101	102	102	99	102			158.5	
	25	320	"	102	100	99	96	100			160	160
	35	330	"	100	98	96	93	95	165			
	45	340	"	97.5	93	92	86	92				
	55	350	"	93	87	86	77	88				
	3:05	360	"	90	82	80	67	80				
	15	370	"	77	76	68	60	68			182	181
	30	375	"					50			187.5	99
	35	375	"			50						
	35	380	"	50	44					99	190	
	35	385	"		50						181	192.5

A II

DATE	TIME	MIN.	AMP'S	V 1194	V 1204	V 1208	V 1194	V 1165	T Y	T Y	T S	T S	T IT
	AM		Exchange										
4/25/54	920	0	30	158	155	152	152	1525	90.5	92	90.5	90	
	940	5	"						88	90	90	90-88	
	1139	6	"						90	91	91.5	92-90	
	PM 220	9	"						90	91.5	92	92-90	
	300	12	"						98	99.5	98	99-97	
	320	15	"	152	153	151	152.5	152.5	100	101.5	101	102-100	
	P.M.		Exchange										
	320	30		157.5	157	157.5	157	157					
	25	0	30	148	146.5	146.5	146	146					
	37	2	"	149.5	149	149.5	149	149					
	30	5	"	135	137.5	137	137	137.5					
	35	10	"	136	135	135	135.5	135.5					
	45	22	"	132	133	132.5	132.5	133					
	55	30	"	132.5	132	131.5	131.5	132					
	405	40	"	130	130	130	130	130					
	25	60	"	126	126	126	126	126					
	45	80	"	124.5	125	124.5	124.5	125					
	10.05	100	"	122.5	122.5	122.5	122.5	123					
	25	120	"	120.5	121	120.5	120.5	121					
	45	140	"	119.5	120	120	119.5	120					
	11.05	160	"	119.5	119.5	119	119	119					

A IV

DATE	TIME	MIN.	AMP'S	VOLTS 1197	2006	2018	2160	2168	TEMPS 1197	2006	2018	2160	2168
	PM		30										
4-25-11	1125	100	"	λ	λ	λ	λ						
	145	200	"	116	117.5	116.5	117	117					
	AM 1205	220	"	116.5	116	116	116	116	97.5	98	98	96.5-98.5	
	25	240	"	114	114.5	114	114.5	114					
	45	260	"	112	112	112	112.5	112					
	1106	280	"	110	111	110	110.5	110					
	26	300	"	107	107.5	107	108.5	108					
	36	310	"	106.5	106.5	106.5	106	106					
	46	320	"	106.5	106	106.5	106	106					
	56	330	"	102	102	102	102 (100)	102.5					166
	2:05	340	"	101	100	100	99.5	100					170
	16	350	"	98	99.5	99	99.5	99.5					170
	26	360	"	94.5	91	91	89.5	90					
	36	370	"	88	82.5	82.5	82.5	80					
	36.5	370½	"	—	—	—	62	—					97-185.2
	46	380	"	76	74.5	72	—	62					
	46	381	"	—	—	—	—	62					190.5 99
	46.5	381½	"	—	—	60	—	—				100½	190.7
	6.2	387	"	60	—	—	—	—	98				193.5
	6.2	387½	"	—	60	—	—	—		97.5			192.7

A IV

DATE	TIME	MIN.	AMP'S	VOLTS 1792	2046	2038	2040	2145	TEMPS 2	6	3	0	8
3/26/11	11 A.M.								Charge # 15				
	1100	0	30	154	152	155	157	156	90	96	RX	94-90	
	700	3	"						87	88	88	88-87	
	1000	6	"						87	88	89	89-87	
P.M.	100	9	"						92	93	93	94-93	
	400	12	"						93	94.5	94	94.5-93	
	700	15	"	164	164.5	163.7	164.5	165	94	96.5	95	96-95	
				Discharge									
	7:03	Mom		158	157	155	157	157.5					
	05	0	30	148	147	146	144	146					
	07	2	"	140.7	140	140	140	140.5					
	10	5	"	137	136.5	136	136	136.7					
	15	10	"	135.2	135	134.5	135	135					
	25	20	"	133	132.7	132.5	133	133					
	35	30	"	131.5	131.2	131.2	131	131					
	45	40	"	130	129.7	129.7	129.5	129.7					
	8:05	60	"	127	127	126.7	127	127.2					
	25	80	"	125	125	125	125	125					
	45	100	"	—									
	9:05	120	"	122.7	122	121.7	122	122					
	25	140	"	120	120	120	120	120					
	45	160	"	118.5	117.7	119	117.2	119.7					
	10:05	180	"	118	118.5	118	118.2	118.7	96	95	96.5	96.5-95	

A IV

DATE	TIME	MIN.	AMP'S	VOLTS 1792	2046	2038	2040	2145	1	2	3	4	5
4/26/11	PM												
	1025	200	30	116.7	117.7	116.7	117.5	118					
	45	220	"	116	116.5	116	116.2	117					
	1105	240	"	114.2	115.7	114.2	115	115.7					
	25	260	"	113	114	112.5	113.5	114					
	45	280	"	111	111.7	110.2	110.5	112					
4/27/11 AM	1205	300	"	108.5	109.5	108	108	109.7					
	15	310	"	107	107.7	106	106.5	108					
	25	320	"	106	106	105	104.7	106					
	35	330	"	104	103.7	103	102	104					
	45	340	"	102	101.5	100.7	100	102				100	172
												100	170
	55	350	"	99	98	97.5	94.5	98				100	176.5
	105	360	"	95	93	92	86.7	93.5				100	172
	15	370	"	89.5	87	84	70.5	86				100	174
	20	375	"				50		91				187.5
	25	380	"	76	76	68.7		66.5					
	28	383	"			50			101				192.7
	30	385	"					50	100				192.5
	32	387	"	50					99				194.5
	35	390	"		61								
	38	393	"		50				100				196.5

Mt. Hossack & Steve 1:42 PM 4/27/11

H IV.

DATE	TIME	MIN.	AMP'S	Volts 1798	2046	2078	2140	2168	Temps 1	2	3	4	5
4/27/11													
	AM			Change # 16									
	440	0	30	150	154	155	157	156	85	87	87	86.5	
	42	2	"	162	161	161	163	162					
	45	5	"	163	162.5	162	164	163					
	50	10	"	165	165	164	166	166					
	500	20	"	166	167	165	167.5	167.5					
	10	30	"	168	168.5	168	169	168					
	30	40	"	170	169.5	170	170	170					
	40	50	"	169	169	170	169.5	169.5					
	600	60	"	168.5	168.5	169.5	168	168					
	20	100	"	168	168	168	168	168					
	52	120	"	168	168	168	168	168					
	700	140	"	168	168	168	168	168.5					
	20	160	"	168.5	168	168	168	168.5					
	40	180	"	169	168.5	169	168.5	169	88	88	88	87-86.5	
	800	200	"	168	168	168	168	168					
	20	220	"	168	168	168	168	168.5					
	40	240	"	169	169	169	169	169					
	900	260	"	170	170	170	170	170					
	20	280	"	171	170.5	170.5	171	171					
	40	300	"	172	172	172	172	172					
	1000	320	"	172.5	172.5	172	173	173					
	20	340	"	173	173	173	173.5	173					

H IV.

DATE	TIME	MIN.	AMP'S	Volts 1798	2046	2078	2140	2168	Temps 1	2	3	4	5
	A.M.												
	1640	360	30	174	175	175	176.5	175.5					
4/27/11	1700	380	"	177	178	178	180	179					
	20	1400	"	180	180	180	182	182					
	40	420	"	181.5	181.5	181	183	182.5					
	AM			Discharge									
	1143	ap	30	156	156	158	156	156					
	45	0	"	146	144	144	144	144					
	47	2	"	138	136.5	136.5	137	137					
	50	5	"	136	135.5	135.5	136	135.5					
	55	10	"	134	133	133.5	134	133.5					
P.M.	1205	20	"	131.5	131.5	131.5	131.5	131					
	15	30	"	129	129	129.5	129	129.5					
	25	40	"	127.5	127	127.5	127.5	127					
	45	60	"	125	125.5	125.5	125.5	125.5					
	105	80	"	122.5	122.5	122.5	122.5	122.5					
	25	100	"	120.5	121	121	121	121.5					
	40	120	"	119.5	120	120.5	120	120.5					
	205	140	"	119	119.5	119.5	119.5	120					
	25	160	"	118.5	118.5	119	119	119.5					
	45	180	"	116.5	117	117	117.5	117.5	90	90	91.5	91.5	90
	305	200	"	115	115.5	115.5	115.5	116					
	25	220	"	114	114	114	114.5	114					
	45	240	"	111	111	111.5	111.5	111.5					

-7 hrs

A IV

DATE	TIME	MIN.	AMP'S	Volts 1792	2046	2298	2400	2556	Temp 192	196	198	Specific Gravity
	P.M.											
4-27-11	405	260	30	109.7	109.5	109.4	109.3	109.2	11.12			
	15	270	"	108	108	108.4	108.4	108.4	107			
	25	280	"	106.5	106	106	106	106	107			
	35	290	"	103.7	103.7	104	103.3	103.5	109			
	45	298			100		100		170			
	50	305	"	100	99	100.2	99	101.7	94.5	97	96	96.5
	55	305	"			100		100	158.5			
												96.5

Discharge #17

DATE	TIME	MIN.	AMP'S	Volts 1792	2046	2298	2400	2556	Temp 192	196	198	Specific Gravity
P.M.	600	0	30	150	150	150	150	150	93	93	93.5	93.5
	02	2	"	154.5	154.5	154	155	155				
	05	5	"	158	158	158	158.5	158.5				
	10	10	"	159	159.5	159	160	160				
	20	20	"	163.5	164	161	165	165				
	30	30	"	167	167.5	166	168	168				
	40	40	"	168	168	167.5	168	168				
	700	60	"	167	167	167	166.5	167				
	20	80	"	166	166	166	166	166				
	40	100	"	166	166	166	166	166				
	800	120	"	166	166	166	166	166				
	20	140	"	166	166	166	166	166				
	40	160	"	166	166	166	166	166				
	900	180	"	167.5	167.5	167	167.5	167				

A IV

DATE	TIME	MIN.	AMP'S	Volts 1792	2046	2298	2400	2556	Specific Gravity 1	2	3	4	5
	P.M.												
4-27-11	900	300	30	167	167	167	167.2	167.2					
	40	320	"	167.5	167.5	167	167.5	167.5					
	1000	340	"	170	169.7	169.5	170	170					
	20	360	"	170.2	170.2	170	170.7	170.5					
	40	380	"	172	172.7	172.2	172.5	172.5					
	1100	400	"	176	176	175.5	175.7	175.7					
	20	420	"	178	178	177.5	178	178					
	40	440	"	180	180.5	180	180.2	180.7					
	1200 A.M.	460	"	181.7	182	181.7	181.5	181.5					
4-28-11	20	480	"	182	183	182.5	182.5	182.5					
	40	500	"	183.5	184	183.7	184	184					
	100	520	"	184.5	184.5	184.5	184.5	184.5	88	90	90	90	88
													—Phos.
	A.M.				Discharge								
4-28-11	103	0	20	167	167	166.5	167	166.5					
	05	2	"	146	146	145.7	146	145.7					
	07	5	"	138	137.5	137	138	137					
	10	5	"	136	135	135	135.7	135.2					
	15	10	"	134	134	133.7	134	133.7					
	25	20	"	132	131.7	131.5	131.7	131.7					
	35	30	"	130	129.7	129.7	130	129.7					
	45	40	"	128	128	128	128	128					
	235	60	"	125	125.5	125.2	125.7	125.7					

H. IV.

DATE	TIME	MIN.	AMP'S	VOLTS 179.2	204.6	207.8	214.0	216.8	TEMPS 179.2	204.6	207.8	214.0	216.8
	A.M.												
4-28-11	2.25	80	30	123.7	124.7	123.7	124.7	124.7					
	.45	100	"	122	122	122	122	122					
	3.05	120	"	120.5	121	121	121	121					
	.25	140	"	120	120	120	120	120					
	.45	160	"	119	119.5	119.5	119.5	119.7					
Temps	4.05	180	"	118	118	118	118	118	90	91	92	91	90.5
	.25	200	"	116.2	116.7	116	116.2	116.7					
	45	220	"	115	115.7	115	115	115.7					
	5.05	240	"	113	113.7	113	113.7	114					
	25	260	"	111.8	111	111.5	111.5	112					
	45	280	"	107.0	107.5	107.2	107.2	108.0					
	5.55	290	"	105.7	106.5	106.7	106.7	105.9					
	6.00	300	"	104	104	103.7	103.5	104					
	12	307	"	100	100	100	100		153.5				
	15	310	"					100	155	93	94	92	
	A.M.				Change			18					
4-29-11	6.40	0	30	148	148.5	149	149.5	15	92	93	92	91	90
	42	2	"	154	154	154	154.5	154					
	45	5	"	155	155	156	155	156					
	50	10	"	158	158.5	158	159.7	159					
	7.00	20	"	162	162.5	161	163	163					
	10	30	"	165.7	166	164	166	166					
	20	40	"	167	167	166	167.7	167.7					

F IV

DATE	TIME	MIN.	AMP'S	VOLTS 179.2	204.6	207.8	214.0	216.8	TEMPS 2	6	8	0	8
	A.M.												
4-28-11	7.40	60	30	166	166	166	166	166					
	8.00	80	"	165	165	165	165	165					
	20	100	"	166	165.7	166	166	166					
	40	120	"	166	166	165.5	166	166					
	9.00	140	"	165	166	166.5	166.2	167					
	20	160	"	167	167.7	167	167	167					
	40	180	"	167.7	167	167	167	167.5					
	10.00	200	"	166.2	166	166.2	166	166	87	88	88	89	87
	20	220	"	169	169.2	169.7	169.7	169.7					
	40	240	"	171	170.5	170.5	171	170.5					
	11.00	260	"	171	171	170.5	170.5	170.7					
	20	280	"	172	173	171.7	172	172					
	40	300	"	175	176	174	174.7	175					
	12.00	320	"	178	179	178	178	178					
P.M.	20	340	"	178.5	179	178	179	179					
	40	360	"	182	182	181.5	182.5	182					
	100	380	"	183	183.5	183	183.5	183					
	20	400	"	183.5	183.7	183.5	183.8	183.7					
	40	420	"	183.5	183.5	183.5	184	184	89	90	91	91-89.5	
	P.M.				Discharge						Thro		
4-28-11	1.43	open		156	156	155.5	156	156					
	45	0	30	146.5	145	145.5	145.5	146.5					
	47	2	"	137	136.5	135.5	137.5	136.5					

H IV

DATE	TIME	MIN.	AMPS	V 1	V 2	V 3	V 4	V 5	Temps 1	2	3	4	5
	7.39			2.09	2.048	2.079	2.09	2.068	.9	46	78	40	68
4-28-11	1.50	5	30	1.265	1.25	1.264	1.255	1.255					
	55	10	"	1.332	1.33	1.325	1.32	1.33					
	2.05	20	"	1.312	1.31	1.308	1.31	1.31					
	15	30	"	1.296	1.29	1.292	1.29	1.292					
	25	40	"	1.28	1.28	1.277	1.28	1.279					
	45	60	"	1.267	1.26	1.255	1.255	1.255					
	3.15	80	"	1.24	1.24	1.24	1.24	1.24					
	25	100	"	1.225	1.22	1.22	1.22	1.225					
	45	120	"	1.207	1.21	1.21	1.21	1.21					
	4.05	140	"	1.20	1.20	1.195	1.198	1.20					
	25	160	"	1.18	1.19	1.185	1.19	1.19					
	40	180	"	1.17	1.175	1.17	1.175	1.18	92.5	93	93	93.5	
	5.05	200	"	1.16	1.16	1.16	1.16	1.160					
	25	220	"	1.147	1.15	1.145	1.15	1.152					
	45	240	"	1.13	1.13	1.130	1.13	1.135					
	6.05	260	"	1.10	1.10	1.10	1.10	1.100					
	25	280	"	1.08	1.07	1.07	1.07	1.08					
	35	290	"	1.06	1.045	1.045	1.045	1.06					
	45	300	"	1.03	1.02	1.025	1.025	1.03					
	55	310	"	1.00	1.007	1.01	1.00	1.007	1.55			1.65	
	56½	311½			1.00	1.00		1.00	1.567			1.567	

H IV

DATE	TIME	MIN.	AMPS	V 1	V 2	V 3	V 4	V 5	Temps 1	2	3	4	5
4/28/11				1.90	2.060	2.079	2.090	2.068					
	PM			Charge				19					
	5.00	0	30	1.52	1.52	1.53	1.53	1.52					
	02	2	"	1.53	1.53	1.54	1.54	1.543					
	05	5	"	1.56	1.565	1.57	1.56	1.565					
	10	10	"	1.575	1.58	1.577	1.58	1.580					
	20	20	"	1.62	1.625	1.61	1.62	1.63					
	30	30	"	1.65	1.653	1.64	1.66	1.66					
	40	40	"	1.67	1.67	1.66	1.677	1.677					
	9.00	60	"	1.66	1.662	1.661	1.665	1.665					
	20	80	"	1.662	1.662	1.67	1.665	1.665					
	40	100	"	1.66	1.665	1.66	1.66	1.66					
	10.00	120	"	1.66	1.65	1.66	1.66	1.66					
	20	140	"	1.66	1.66	1.66	1.66	1.66					
	40	160	"	1.68	1.67	1.677	1.675	1.677					
	11.00	180	"	1.68	1.677	1.68	1.68	1.68	88.5	89	89	88	88
	20	200	"	1.68	1.68	1.682	1.68	1.685					
	40	220	"	1.69	1.69	1.692	1.69	1.69					
	12.00	240	"	1.70	1.70	1.70	1.70	1.70					
	20	260	"	1.715	1.717	1.71	1.712	1.717					
	40	280	"	1.73	1.737	1.720	1.73	1.734					
	1.00	300	"	1.75	1.76	1.74	1.745	1.755					
	20	320	"	1.79	1.80	1.78	1.78	1.80					
	40	340	"	1.81	1.82	1.816	1.82	1.827					

A.IV

DATE	TIME	MIN.	AMP'S	VOLTS 1992	2046	2098	2140	2168	TEMPS 1992	2046	2098	2140	2168
4/29/11	A.M.		30										
	2.00	240	"	185	183	182	183	184					
	20	360	"	184	184	184	184	184					
	40	900	"	184	184	183	184	184					
	3.00	420	"	184	184	184	184	184	90	92	91.5	91	90
													7th
	A.M.			No change									
	3.03	900	30	156	156	156	156	156					
	05	0	"	146	145	144	144	144					
	.17	2	"	138	137	136	137	137					
	.10	5	"	136	135	135	135	135					
	.15	10	"	134	134	133	134	134					
	.20	20	"	132	132	132	132	132					
	.30	30	"	130	130	130	130	130					
	.40	40	"	128	128	128	128	128					
	4.05	60	"	126	126	126	126	126					
	.20	80	"	124	124	124	124	124					
	.40	100	"	123	123	123	123	123					
	5.05	120	"	121	121	121	121	122					
	.20	140	"	120	121	121	121	121					
	.40	160	"	119	119	119	119	119					
	6.05	180	"	118	118	118	118	118	92	94	94	95	97
	.20	200	"	116	117	116	117	117					
	.40	220	"	115	116	115	116	116					

A.IV

DATE	TIME	MIN.	AMP'S	VOLTS m2	2040	2098	2140	2168	TEMPS 2	6	8	0	8
4/29/11	A.M.												
	705	240	30	115	114	115	115	114					
	25	360	"	111	111	111	111	112					
	45	480	"	108	108	108	107	108					
	55	540		106	106	106	106	107					
	8.05	600		105	104	104	103	105					153.2
		300					100						
	10	310		102	100	100	98	101.5					155
		315						100					156.2
	25	330		97	95	94	89	96					157
	30	330		89	88	88	66	85	167.5				
	10	335					50						
	45	340		72	77	55		61	171				
	47	342				50							
	49	344						50	172		104		102
	52	347		50					104	173.5			
	55	350			68								
	59	354			50					105			177
	A.M.			Charge				20					
4/29/11	10.45	0	30	156	156	157	157	158	94	97	95.7	95	95
	1.45	3	"						93.5	94.5	95	94.5	93.5
	4.45	6	"						94	94	95	96	94
	7.45	7	"						94	95	96	97	96
	Charge interrupted Short 15 hours												
	8.45	7	30	160	162	160	160	162	97.5	97.5	97.7	98	97.5
	11.45	10	"						97.5	98.5	98.5	98	97.5
	2.45	18	"						96.5	97	98	98	97
	5.45	15	"	132	135	133	134	134	95	96	97.5	98	95

FI ①

DATE	TIME	MIN.	AMP'S
			1797 2046 2078 2140
4-30-11			Cells were then disconnected
5-1-11	#17		from Equal + connected up in
			box. The battery was then returned
			to Room.
			18867A
			# 18867A is a Special cell consisting
			of one positive + two negative plates
			from #14 cell # 18867 mounted
			with glass insulators in an #14 Box
			It was filled with 1700 CC 25% KOH
			+ 15 g LiOH per liter + after soaking
			for about 30 hours the were emptied
			out and cell refilled with 1700 CC
			21% KOH + 45 g/l LiOH (that)
			It was then run as follows

FI ②

DATE	TIME	MIN.	AMP'S	
				18867A
	PM			Charge #1
5-4-11	10 10	0	7.5	1663
	11 10	1	"	1662
5-5-11	12 10	2	"	1665
	1 10	3	"	1667 1663
	2 10	4	"	1667
	3 10	5	"	1682
	4 10	6½	"	1697 1677
	5 10	7½	"	1707
	6 10	8	"	1717
	7 10	9	"	1722
	8 10	10	"	—
	9 10	11	"	1732
	10 10	12	"	1734
	11 10	13	"	1742 1739
	12 10 AM	14	"	1744
	1 10	15		1745 — 15 Jan
	PM			Discharge
	1 13	0 then	1.5	1747 1745
	1 15	0	.75	1746
	1 17	2	"	1745
	1 20	5	"	1744

F # 2

DATE	TIME	MIN.	AMP'S	V	T
	P.M.		7.6	1886	7A
5-5-11	1.25	10	"	131	
	35	20	"	128	
	45	30	"	126	
	55	40	"	1245	
	2.15	60	"	1217	
	35	80	"	1197	
	55	100	"	1181	
	3.15	120	"	117	
	35	140	"	1162	
	55	160	"	1157	
	4.15	180	"	115	
	35	200	"	1114	
	55	220	"	113	
	5.15	240	"	112	
	35	260	"	111	
	55	280	"	110	
	6.05	290	"	109.5	
	15	300		108	
	25	310		108	
	35	320		107	
	45	330		107	
	55	340		106	
	7.05	360		105.7	

P. Lewis

H I 2

DATE	TIME	MIN.	AMP'S	V	J
	P.M.			1886	7A
5/5/11	7.15	300	7.5	115	
	35	320	"	104	
	35	350	"	103	
	45	390	"	102.5	Commenced at 6 min.
	55	394	"	102.5	
	805	404	"	100.5	
	12	412	"	100	
	13	414	"	100	— 51.7
	25	424	"	98.7	
	35	434	"	98	
	45	444	"	96	
	55	454	"	94	
	905	464	"	90.5	
	10	474	"	91	OK H.P.S.
	50	430		88	
	25	484	"	92. 78	— 60.

Stood idle 58 hours over Saturday and Sunday

	A.M.			Change #2	
5-8-11	7.30	0	7.5	166	74
	8.30	1	"	166	
	9.30	2	"	172	
	10.30	3	"	173	79

TI ②

DATE	TIME	MIN.	AMP'S	Volts	Remarks
	A.M.			18867	A
5-8-11	11.30	4	2.5	1735	
	P.M. 12.30	5	"	174	
	1.30	6	"	1747	91
	2.30	7	"	1745	
	3.30	8	"	1765	
	4.30	9	"	1762	80
	5.30	10	"	1765	
	6.30	11	"	178	
	7.30	12	"	177	81
	8.30	13	"	177	
	9.30	14	"	1765	
	10.30	15	"	176	82
	TM				— 156
					Washington
	12.33	open		157	
	34	0	2.5	1465	
	37	8	"	128	
	40	9	"	134	
	44	10	"	133	
	45	91	"	129	
	11.00	81	"	127	
	15	10	"	126	
	26	60	"	123	
	56	81	"	120	
	12.15	100	"	119	

TI ②

DATE	TIME	MIN.	AMP'S	P. J.	
	A.M.			18867	A
5/9/11	1.05	120	2.5	118	
	35	140	"	115	
	1.15	160	"	115	
	35	180	"	114	?
	55	200	"	114	
	2.15	220	"	113	
	35	240	"	112	
	55	260	"	112	
	3.15	280	"	111	
	35	290	"	115	
	55	300	"	111	
	4	310	"	4	
	25	320	"	1102	?
	4.07	335	"	102	
	16	341	"	110	?
	25	350	"	110	
	35	360	"	109	
	45	379	"	107	
	55	380	"	108	?
	5.10	390	"	108	
	15	400	"	108	
	35	420	"	106	
	55	440	"	106	
	6.15	460	"	104	

FI Q

DATE	TIME	MIN.	AMP'S	V	T
	AM			188.6	78
5/9/11	6.35	480	75	101.5	
	45	490	"	100	
	55	500	"	98	
	7 05	510	"	96	
	15	520	"	92	
	25	530	"	86	
	36	539	"	50	85
	AM		76	Discharge	
	9.30	0	"	140	80
	9.30	1	"	165	
	10.30	2	"	170	
	11.30	3	"	170.7	80
	PM 12.30	4	"	172	
	1.30	5	"	173	
	2.30	6	"	175	81.5
	3.30	7	"	177	
	4.30	8	"	176	
	5.30	9	"	176.5	81
	6.30	10	"	177.7	
	7.30	11	"	178	
	8.30	12	"	178	82
	9.30	13	"	178.5	

— 61.2

— 47.3

? OK

F I Q

DATE	TIME	MIN.	AMP'S	V	T
	PM		75	188.6	79
5-9-11	11.30	14	"	180	
	11.30	14	"	178.7	79.5
	PM				
5-9-11	11.30	0	Begin	15.8	
	35	10	7.5	146	
	37	12	"	139.2	
	40	15	"	—	
	45	20	"	131.5	
	50	20	"	129	
5-10-11	AM 12.05	30	"	126.7	
	15	40	"	126	
	35	60	"	124	
	55	80	"	120.7	
	1.15	100	"	119.5	
	35	120	"	118	
	55	140	"	117	
	2.15	160	"	116.2	79
	35	180	"	116.2	
	55	200	"	114.7	
	3.15	220	"	114	
	35	240	"	113.7	
	55	260	"	112	
	4.15	280	"	112	

— 15 hrs

Discharge

F I ②

DATE	TIME	MIN.	AMP'S	V	T
	#M			1111.7A	
5-10.11	4:38	300	7.0	1124	
	48	313	"	114	
	55	320	"	117	
	6:00	330	"	111	
	15	345	"	111	ex
	25	355	"	1105	
	35	400	"	1105	
	45	410	"	110	
	55	420	"	110	
	6:00	430	"	110	
	15	440	"	1097	
	25	450	"	109	
	35	500	"	1089	
	45	510	"	108	
	55	520	"	1077	
	7:05	530	"	1065	
	15	540	"	1067	
	25	550	"	1057	
	35	600	"	1052	
	45	610	"	1047	
	55	620	"	1037	
	8:05	630	"	103	
	15	640	"	997.83	

?OK

-65.0

F I ②

DATE	TIME	MIN.	AMP'S	V	T
	#M		7.5	1848.67.4	
5-10.11	8:25	530	"	92	
	32	537	"	50	
	#M			Charge	4
5-10-11	9:30	0	7.5	155	
	10:30	1	"	167.2	86
	11:30	2	"	169	
PM	12:30	3	"	169	
	1:30	4	"	170.2	
	2:30	5	"	171	
	3:30	6	"	173.5	
	4:30	7	"	174	90
	5:30	8	"	174.5	
	6:30	9	"	176	
	7:30	10	"	176	
	8:30	11	"	177	
	9:30	12	"	178	87
	10:30	13	"	179.2	
	11:30	14	"	180.5	
AM	12:30	15	"	181.7	84
5-11				over	

? Temp

? Temp

FI 6A

DATE	TIME	MIN.	AMP'S	V	T
				1886	H
	A.M.				
5-11-11	1233	Mean		15.8	Discharge
	35	0	7.5	1467	
	37	2	"	1398	
	40	5	"	135	
	45	10	"	132.2	
	53	20	"	130	
	1.03	30	"	128	
	16	40	"	127	
	35	60	"	123.8	
	53	80	"	121	
	2.15	100	"	120	
	35	120	"	118.2	
	53	140	"	X	
	3.15	160	"	116.5	
	35	180	"	115	FO
	53	200	"	113.5	
	4.16	220	"	114.5	
	35	240	"	103.2	
	55	260	"	110	
	5.15	280	"	112.2	
	35	300	"	112	
	49	314	"	111.2	

FI 6

DATE	TIME	MIN.	AMP'S	V	T
	A.M.			1886	H
5-11-11	555	320	7.5	1117	
	605	330	"	1107	
	15	340	"	1105	
	25	350	"	1101	
	35	362	"	1102	72
	49	374	"	110	
	55	380	"	110	
	7.12	397	"	110	
	15	400	"	109.7	
	25	410	"	1095	
	35	420	"	108.2	
	45	430	"	108.5	
	55	440	"	1077	
	8.06	451	"	107.2	
	16	464	"	106.5	
	25	470	"	106	
	35	480	"	104.7	
	45	490	"	104	
	55	500	"	102	
	9.02	510	"	100	
	9.05	520	"	99	
	15	530	"	98	
	23	535	"	50	78.6

-63.4

-66.0

F I ②

Charge #5

DATE	TIME	MIN.	AMP'S	V	T									
	A.M.		7.5	18867										
5-11-11	10.30	0	"	156	905									
	11.30	1	"	1677										
PM	12.30	2	"	1678										
	1.30	3	"	167	95									
	2.30	4	"	1662										
	3.30	5	"	1705										
	4.30	6	"	1717	92									
	5.30	7	"	173										
	6.30	8	"	173										
	7.30	9	"	172	94									
	8.30	10	"	171										
	9.30	11	"	1779										
	10.30	12	"	180	87									
	11.30	13	"	185										
	12.30	14	"	182										
	2.30	16	"	182										
	A.M													
	2.33	open		159										
	35	0	7.5	147										
	37	2	"	148										
	40	5	"	144										
	45	10	"	132										

1 hr. overcharge.
and cells came down
while off. — and
was fright —
— 16 hrs

Discharge

F I ②

DATE	TIME	MIN.	AMP'S	V	T									
	A.M.			18867										
5/12/11	255	20	7.5	130										
	305	30	"	128										
	15	40	"	126										
	35	60	"	124										
	55	80	"	122										
	445	100	"	120										
	35	120	"	1187										
	55	140	"	118										
	515	160	"	117										
	35	180	"	116	86									
	55	200	"	116										
	615	220	"	115										
	35	240	"	1145										
	55	260	"	114										
	715	280	"	113										
	35	300	"	1127										
	55	320	"	112										
	805	330	"	112										
	15	340	"	1118										
	25	350	"	1117										
	35	360	"	1115										
	45	370	"	1115										
	55	380	"	111										

F I ②

DATE	TIME	MIN.	AMP'S	V	T
	4 M.		7.5	188674	
5-12-11	9.05	390	"	111	
	25	410	"	1065	
	45	430	"	1094	
	55	440	"	109	
	10.05	450	"	1045	
	15	460	"	108	
	25	470	"	107	
	35	480	"	1054	
	45	490	"	1042	
	55	500	"	103	
		5008		600	
	11.05	510	"	99	-63.2
	15	520	"	97	
	19 7x	527 7x		50 97	-65.4
	1.77			Charge +6	
	12.50	1	7.5	151 87	
	52	2		156	
	55	5		1672	
	100	10		—	
	10	20		1665	
	20	30		1625	
	30	40		164	
	50	60		167	

F I ②

DATE	TIME	MIN.	AMP'S	V. J.
5/12/11	PM			188674.
	210	50	7.5	167
	30	100		1664
	50	120		167
	310	140		167
	30	160		1665
	50	180		167
	410	200		1675
	30	220		168
	50	240		168
	510	260		—
	30	280		170
	50	300		1705
	610	320		171
	30	340		1715
	50	360		172
	710	380	"	1725
	30	400	"	172
	50	420	"	1724
				-7 hrs
5/13/11	Am			2 recharge.
	7.52	0	7.5	1668
	7.55	0	7.5	1711
	8.7	9	"	1868

F 1 (2)

DATE	TIME	MIN.	AMP'S	V.	T.
5/12/11	P.M.			18867	H
	8:5	5	70	131.5	
	5	10	"	132	
	15	20	"	130	
	25	30	"	127	
	35	40	"	125.5	
	45	50	"	123.7	
	9:15	60	"	122	
	35	100	"	120.5	
	55	120	"	119.5	
	10:15	140	"	119	
	35	160	"	118	
	55	180	"	117	
	11:15	200	"	116	
	35	220	"	115	
	55	240	"	X	
	12:25	254	"	114	
	15	264	"	113	
	25	270	"	X	
	35	280	"	112	
	45	290	"	112.5	
	55	300		112	
	1:05	310		111	
	15	320		111	
	35				

F I (2)

DATE	TIME	MIN.	AMP'S	V	T
	AM			18867A	
5/13/11	125	320	70		
	35	340	"		
	45	353	"	109	
	55	360	"	107	
	2:05	370	"	105	

The Cell will need stand till # 18867B, which is similar in all respects except it has rubber insulation instead of glass. Load the same number of hours when the 2 will run in series.

HIT 18867B

5-12-11 1.00 1700 C.C. 25% KOH + 15% LiOH per liter put into cell, 2 plates

5-13-11 1.00 allowed to soak 33 hours. This was then emptied & removed with 900 C.C. 21% KOH + 50% LiOH per liter and 800 C.C. 21% KOH straight. Total 1,700 C.C.

Cell then stood 2 hours and was run as follows

Notebooks by Experimenters Other Than Edison
Group 3: Cement

The eight notebooks in this group cover the period May 1899-February 1903. They include entries by Francis R. Upton, Robert W. Rafn, and Cloyd M. Chapman; two books also contain notations by Edison. Five of these notebooks were used primarily to record a continuous series of 640 experiments pertaining to the milling of cement rock and to the desired composition of the mixed concrete, though at least one book is missing from the set. A sixth book contains a summary of some of the results obtained. Two additional books are by Chapman and contain notes on orders placed for the construction of kilns and other equipment, as well as notes on the development of bags for the storage and shipment of cement.

Entries from four notebooks have been selected. N-99-05-23 contains Edison marginalia about the milling and mixing experiments, as well as Upton's notes on the "Scheme of Tests." N-99-06-22.1 contains four pages of calculations and preliminary sketches by Edison of a cement operation, in addition to several pages of notes by Upton that summarize some of the milling and mixing tests in the preceding book. N-99-10-00 is the sixth, summary book of results, and N-02-05-24.1 contains notes by Chapman regarding orders for kilns and other equipment, possibly intended for Edison's cement plant in Stewartsville, New Jersey. The two partially selected books are followed by a bracketed number noting the approximate percent of pages selected. The entries not selected include numerous ore assays, bag experiments, lists of parts for a gas engine, and additional tests of various compositions of cement. A notebook containing only cement rock assays can be found in Group 5: Chemical Laboratory.

N-Number	Inscription on Front Cover or Flyleaf
Selected Books	
99-05-23	"Cement Notes May 23, 1899 F. R. Upton"
99-06-22.1	"Cement Notes June 22, 1899 F. R. Upton" [less than 5%]
99-10-00	"Results of Cement-experiments. (903)"
02-05-24.1	"Bricker Machine C.M.C. 5/24/02" [less than 5%]

Cement Mixing Books: Not Selected

99-09-02	"Cement Notes Sept 2, 1899"
99-09-19	"Cement Mixing Notes Sept 19, 1899"
99-10-11	"11 Oct 1899"

Bag Test Book: Not Selected

02-04-25	"Bag Test"

Notebook, N-99-05-23

N-99-05-23

2500 80 / 200000

80 30 / 2400

24000

4000 bbls

80 Griff Mills

130 / 9800

75 70- 6-

20 | 4000 / 80 (200 Hours

5 | 200 / 40-

1

Cement Notes

May 23, 1899

F. R. Upton

28-

1995
218

218
50
1290-0

46.8
250
218-

500
109
391-

Lehigh chicken run through Corrugated Rolls 30 lbs air pressure Sample taken near middle of run 20 Grammes taken

On	100	3.74	18.7	
"	200	6.72	33.6	52.3
Thro	"	9.45	47.25	
		19.91		

Same as above except 45 lbs air

On	100	3.35	16.8	
"	200	6.00	30.	46.8
Thro	200	10.60	53%	
		19.95		

235
144
940
940
235
90) 33,840 (3.76

say 25'X25'
25
125
50
625
3.76
3750
4375
1875
2350.00
2.35 kilo
22
470
470
5.17 lbs

18
55
90
99.

25—

46—

50—

Box 15"X6" = 90 sq inches
left 30 minutes on floor
collected 2.35 grammes of flour

$\frac{144}{90} \times 2.35 = 3.76$ grammes per sq foot

This amounts to 5 1/5 lbs. on a space 25'X25'

Box 18"X5 1/2" as above
1.8 grammes on 99 sq inches

225) 534 (23.7
450
840
675
1650

85
64
340
510
5440

16.

1662) 277 (16
1662
11680
2

4) 1300
320

4 483
2002
9400

17

465
75
2425
3395
1445
18075

1800
26
10800
3600
46800

22.5 Grammes Lehigh Thro 100#
and on 200 passed 100 thro =
11.400 lbs per square inch
on 200 17.13
\# Thro " 5.34 23.7 %
22.47

\# Material going thro 200 seems quite
coarse

The 17.13 Grammes passed again
on 200 13.85
Thro " 2.77
16.62

2232) 3570 (16
2232
13380
13392

2219) 5670 (2.5.5
4438
12320
11095
12250

2219) 4520 (20.4
4438
8200

2173) 6706 (30.9
6519
1810

50
400
2000
383) 19152 (52.2
850
766
840

14-

11
29
77
34

27
11
27
27
297

11
23
33
22
253

25
11
25
25
275

22.5 Grammes of Lehigh Through 9/1000 and on 100 wire mesh processed 11.400 lbs per square inch = 100 atmos on 3/4 inch cylinder

1st	on 100	11.95	
	" 200	6.80	
	Thro "	3.57	16 %
		22.32	
2nd	on 100	10.22	
	" 200	7.35	
	Thro "	4.52	20.4%
		22.09	
3rd	on 100	9.55	
	" 200	6.95	
	Thro "	5.67	25.5 %
		21.87	
4th	on 100	8.08	
	" 200	6.95	
	Thro "	6.70	30.9 %
		21.73	

11.400
4
4560

380 65
5 5
1900 325

10 Grammes of Lehigh clinker
Thro 9/1000 abt on 100 mesh
screen compressed 40 atmospheres
= 4560 lbs. per sq. inch.

on 100	6.88
" 200	2.33
Thro "	0.65
	9.86

Removed ~~0.12~~ 0.12 Gramme "on 200"
and 0.65 "Thro 200" added

0.12	
0.65	0.91 "on 100"
0.14	
.91	

Then crushed new mixture
4560 lbs

on 100	6.50
" 200	2.96
Thro "	0.48
	9.94

Removed .012 Gram "on 200" & 0.48 Thro
added 0.56 "on 100".

May 25 1897

Lehigh ~~Clinker~~ chipped clinker from over screens. This had been run several times through the rolls and the fines removed in large part by 9/1000 slot screens. Probably not a fair sample as fines would be cut 1/8 in each

100 Grammes Taken

On	.027 round hole		45.75
"	100 mesh		45.90
"	200 "	"	3.85
Thru	"	"	3.70
			99.20

Test made, see Page 53 other book, on Lehigh Clinker. The crushed clinker at rate of 67 tons an hour was screened. This show 42.6% on .027 round hole

50 lb — Recess — 40000 lb

12" roll 3333 per week
15" 2666

65 lb 52400

65 lb 12" 4373
15" 3500

Stiff Iron Roll 15" across

50 lb. air 35 Bbls. an hour

7/1000 screen

Main shaft 186 r.p.m.

Sample #5 taken at end of running rolls 5 minutes.

On 100	1.00	10 %
" 200	3.75	37.5 %
Thru "	5.2	52 %
	9.95	

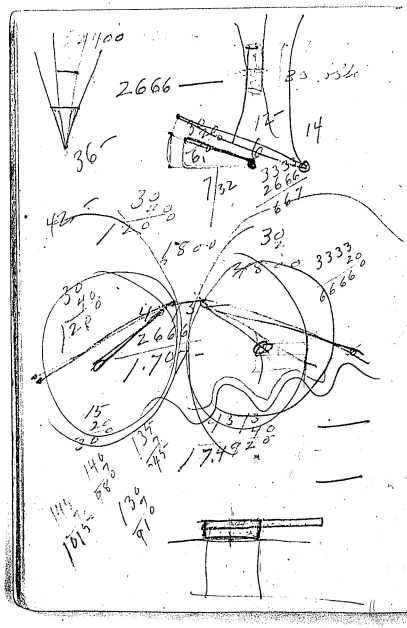
Sample #1 at beginning of run

On 100	2.10	21.0 %
" 200	3.75	37.5
Thru "	4.20	42
	10.05	

Sample #10 end of run 30 minutes

On 100	1.35	13.5 %
" 200	3.75	37.5
Thru "	4.70	47.0
	9.80	

In sample #10 there were quite a number of coarse pieces.



50 lbs pressure gives on

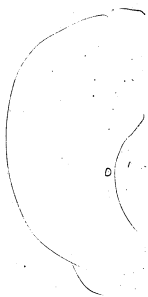
12" Roll 3333 lbs per inch face

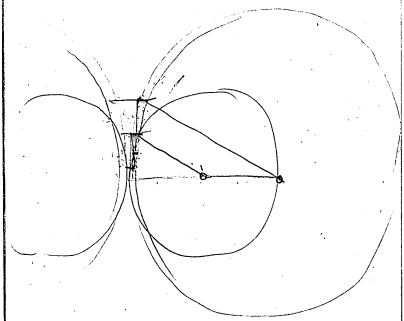
15 " 2666 " " "

65 lbs pressure gives on

12" 4373 lbs per inch face

15 3500 "


D



65 lbs air off rolls

Rolls shattered and broke safety pins after running a few minutes

* 1 Sample taken

10 Grammes taken

On 100	.67	67%
" 200	3.25	32.5
Thru "	5.95	59.5
	9.87	

3

#10 Hoxter

20 Grainmes taken

On	100	2.32	11.6 %	30.7
"	200	3.82	19.1	
Thru	"	13.75	68.75	
		19.89		

#11 Eagle

20 Grainmes taken

On	100	1.70	8.5 %	23.6
"	200	3.02	15.1	
Thru	"	15.17	75.85	
		19.89		

#12 Hammond

On	100	2.74	13.7	29.3
"	200	3.12	15.6	
Thru	"	14.04	70.2	
		19.90		

#13 Anchor

On	100	2.72	13.6	29.35
"	200	3.15	15.75	
Thru	"	14.02	70.1	
		19.89		

Rolls corrugated lengthwise 27
of shaft
65 lbs air
20 Brummers Taken after few min-
utes run

# 2	On 100	0.67	6.7 %	31.7
	" 200	2.50	25.0	
	Thru "	67.5	67.5	
		10.12		

∴ Rolls opened about 5/16"

# 5	sample taken immediately after stopping rolls			
	On 100	0.38	3.8 %	31.1
	" 200	2.73	27.3	
	Thru "	6.82	62.2	
		9.93		

Last of the run from screens

	On 100	0.80	8.0 %	46.7
	" 200	3.87	38.7	
	Thru "	5.16	56.6	
		9.83		

~~74.7~~

74.7	74.7
87	2.5
5229	3735
5976	1494
64989	186.65

100	
41.7	583
583	106
787	3498
4081	583
4664	61798
4081	
459821	

Some of the clinker over screens after run with corrugate rolls taken — 100 Grammes taken

On .027 round hole 25.3 Grammes

10 Grammes of Thru .027 taken

On 100	8.70	8.7%
" 200	1.00	10.
Thru "	0.25	2.5
	9.95	

On .027	25.3	%
" 100	65.0	"
" 200	7.5	"
Thru 200	1.9	"
	99.7	"

65
2
31.55

" see page 15

Beginning of run taken at roller feed

100 Grammes taken

On .027 round hole 41.7 Grammes 41.7%

10 Grammes of Thru .027 taken

On 100	7.87	45.9 "
" 200	1.06	6.2 "
Thru "	1.00	5.8 "
	9.93	99.6

~~Bad~~ Sample Taken from Roller Feed just before the rolls stopped

100 Grammes
On .027 Screen 42.35 Grammes
10 Grammes of Thru .027 Taken
On 100 7.25
" 200 1.25
Thru " 1.48
9.98

80 lbs air — on corrugated Balls

65 Balls thru 9/1000 dist per hour. Speed shaft 185 r.p.m.

No. 1 at the start 10 Grammes taken

on 100	1.65	
" 200	3.08	
Thru "	5.25	52.5
	9.98	

No 2 on 100 1.65

" 200 3.00

Thru " 5.30 53.0%

9.95

No 3 on 100 1.75 17.5%

on 200 2.76 27.6

Thru — 5.37 53.7

9.88

No. 4 10 Grammes Taken

on 100	3.52	35.2 %
" 200	3.40	34.0 "
Thru "	3.03	30.3 "
	9.95	

714
216
4284

714
812
4998

1000
48.4
51.6
30.0
21.6

714
1428
154224

714
5712
583338

71.40
18.15
3570
714
5712
59710
1.00
100.00 / 71.40 / 1.29 59
51.85
48.15
30.0
18.15
1

714
784
2856
5712
4998
559776

7140
1295
584
20.

71
.30
5

71
.30
21.3

4.4

80.

535
50.2
1037
51.85

16 80.2
83.5
71.5
3 | 2852
88.4

415
535
50.2
3 | 1452
48.4

2 |

Run 4' – 3"

Main Shaft 205 r.p.m.

Air 80 lbs. 71.4 Bellows hour

#1 shortly after starting

Air	100	1.95	19.5 %
"	200	2.95	29.5 "
Thru	"	5.02	50.2 "
		9.92	

#2 Shortly after rolls stopped

Air	100	1.92	19.2
"	200	2.68	26.8
Thru	"	5.35	53.5
		9.95	

#3 About 5 minutes

Air	100	2.63	26.3
"	200	3.12	31.2
Thru	"	4.15	41.5
		9.90	

60

24

15

12

75.66 lb

49.66 lb

71.4
22.2
49.2

6169
65
845

6500
109.8
54.02

71.4
31.1
714
714
2142
2220.54

1014
109.85

100.0
48.9
51.1
20.9
31.1

52.5
53.0
53.7
3 | 159.2
53.1

7140
1496
564.4

46.9
30.0
16.9

50.2
53.5
43
3 | 1467
48.9

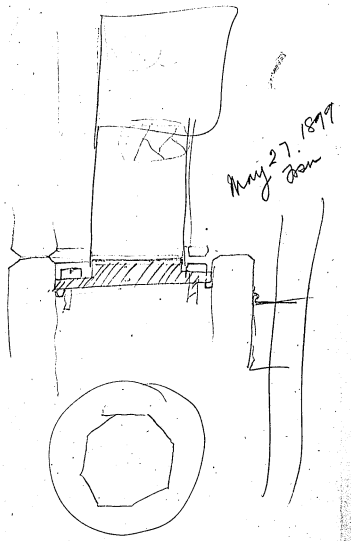
51.1
30.0
21.1

250
20
500

66
20
132

56
20
11.2

6 | 714
132
79.211
714
714
1428
149.654



May 27. 1899
Jam

No 9 Bonneville

on 100	1.67	8.35%	2783
" 200	3.90	19.5 "	
Thru "	14.35	71.75 "	
	19.92		

16 - 3,

250 -

7 8 75

90 - 225

3) 1300
430 ft.

75

3 tons-ft. 300, tons 65

12 -

2 323 5) 6500

60

50

Test Bars given to Mr. Edison by Mr. Bonneville
Bonneville No 2, 720-782 lbs
" Star No. 1 920-1300 "

#	on 100	100-200	Total on 200	Thru 200
#1 Alsens	8.4	13.5	21.9	77.
#2 New atlas	9.2	14.8	24.0	75.2
#3 Edison	3.9	22.0	25.9	73.6
#4 Dyckerhoff	11.6	27.5	39.1	61.4
#5 Old atlas	8.8	19.8	28.6	71.4
#6 Vulcanite	8.0	18.7	26.7	74.0
#7 Lion	8.9	14.9	23.8	76.6
#8 Lehigh	6.6	14.0	20.6	79.0
New screen				
#9 Bonneville	8.35	19.5	27.85	71.75
10 Hoyter	11.6	19.1	30.7	68.75
11 Eagles	8.5	15.1	23.6	75.85
12 Hammer	13.7	15.6	29.3	70.2
13 Anchor	13.6	15.75	29.35	70.1
14 Mean All				

333) 2589.0 | 77.7 $\frac{12}{400} = \frac{3}{100} = \frac{1}{33.3}$

2331
2580
2331
2590

777
23.7
5439
2331
15834
185149

77.7
18.5
61.2

333) 2090 | 62.8
1998
920
666
2540

100
25.9 %
741
62.8 Bbls
5928
1482
5046
524348

May 31, 1899 47

Test 80 lbs air

77.7 Bbls ? 2589 lbs in 5'

On 100	19.1	19.1 %	43.7
" 200	24.7	24.7	
Thru "	55.0	55	
	9.88		

61.2 Bbls per hour of 80% on 200

Test 100 lbs air 2090 lbs in 5'

On 100	2.00	20 %	45.9
" 200	2.59	25.9	
Thru 200	5.30	53	
	9.89		

) 234
989
245

52.4 Bbls per hour of 80% on 200

June 1 2-45 PM started

No 1 2 Grms Lehigh Thru 200 mesh

Stirred every minute for ten minutes. Then five minutes

End	15'	1 3/4"	stirred
	20'	1 7/8"	"
	30'	1 1/2"	"
	45	1 1/2	"
	1' 00	1 1/2	"
	4-30	1 7/16	

June 1, 2-45 PM started

No. 2. 2 Grms Lehigh Thru 200 mesh

Stirred twice first five minutes then every five minutes

End	15'	2 1/4"	stirred
	20'	2 3/8"	"
	30'	1 7/8"	"
	45'	1 3/4	"
	1' 00	1 5/8	"
	4-30	1 5/8	

3-30 P.M

No 3 Edison crushing Lehigh Clinker

3 times stirred first five minutes. Then five minutes.

3-45 1 1/2

4-15 2 1/4

No 4 Hercules Fresh No 6

No 5 Hercules old No 7

025

40
40
1600
40

6) 37,000. (547
320
500
448
578

333
333
999
999
999
110889
333
33 26.67
332667
332667
36926.37

4-28

No. 8 Second crushing Fresh Hercules

No 9 Hercules Third crushes

No 10 Lehigh Three 200

No 11 " " " ground a little in mortar

No 12 Lehigh Three 200 ground a good deal of time, about 10 minutes, in a agate mortar

Lehigh Cement

Sifted Thru 7/100 abt

1st pass 2 coarse 1 Lehigh

On 100	0.06	10.6
" 200	1.	
Thru "	8.87	
	9.93	

2nd Pass

On 100	.04	8.5
" 200	1	
Thru "	9.09	
	9.94	

3rd Pass

On 100		
" 200		
Thru "	8.89	

4th Pass On 100	05	8.1
" 200	.77	
Thru "	9.10	
	9.92	

5th Pass.

on 100	.04
" 200	.72
Thru "	9.17
	9.93

6th Pass

on 100	.05
" 200	.75
Thru "	9.12
	9.92

7th Pass

on 100	.03
" 200	1.04
Thru "	8.90
	9.97

8th Pass

Cement Test No 1

Neat Lehigh Cement 25% water
Friday moulded out of mould too quick
Saturday In water
3 days 390 lbs

No. 2 Neat Edison Thin 7/1000 slate
Friday moulded 25% water
Saturday In water out of mould too quick
3 days ~~150 lbs~~
130 "
160 "

No. 3.
15 oz. Quarty sand
3 oz. Alum cement
35 cc. water
Day. Moulded 10 AM June 5
out Moulded 11-45 AM 11 "
not long enough.
water Tuesday June 6
Broken Monday June 12 10-45 AM
21 lbs
25 "
35 "
81 71
28.75

all at clamps

28.35
125
1 oz = 28.35 grms

125
45
125
125
875

2835
15
14175
2835
42525

42553) 36.000 (82
35 1024
9760

28.35
35
14175
8505
992.20
99

42553) 40000 (94
38277
17230

28.35) 1000 (35
8505
14950

3 1/2 oz
35

No. 4 12 1/2 oz. Quinty
2 1/2 oz. Alaens 8.2%
35 cc water about right
a little oxy.
Moulded 10 Mon. Monday June 5
2-30 P.M. broke two pots in
Taking out of moulds
3-30 broke last one

#5 12 1/2 oz Quinty
2 1/2 " Alaens
40 cc water = 9.4% - right
moulded 12 on June 5. Monday
water " 6 Tuesday

June 12 32 lbs.
34 "
average 33

Alsen cement tried in tubes 3 of water. 2 grammes taken of (7) through 200 mesh June 2

(6)	"	190	on	200
(5)	"	180	"	190
(4)	"	170	"	180
(3)	"	160	"	170
(2)	"	150	"	160
(1)	"	140	"	150

(7) rose immediately
(3) " very slowly
(1) rose more than (2) at first

(7)	rose	more	than	(6)	"	"
(6)	"	"	"	(5)	"	"
(5)	"	"	"	(4)	"	"
(4)	"	"	"	(3)	"	"

After 3 hours all but (3) about same height

June 3

3 days later after shaking and allowing to outside 20 minutes.

(1) 1 3/8"
(2) 15/16"
(3) 1/4" — 3/8" white over this
(4) 2 1/4"
(5) 1 3/4"
(6) 1 1/2"
(7) 3" ?

Again shaken Mr. Ehrlich about 2 hours 30' after.

(1) 1 1/4"
(2) 1 1/8
(3) 3/8
(4) 1 3/4
(5) 1 3/8
(6) 1 1/2
(7) 3 1/8

#6 – 12½ oz quartz
2½ " Atlas new
40 cc water = 9.4 %
amount of water about right.
pots a little wetter than aleers
same amount of water.
In moulds 3 P.M. Monday June 5
" water Tuesday " 6
June 12 Pulled 54 lbs
43 "
97
48.5

Tester pots on glass
3½ oz. Aleen took about 35 cc water
" " Atlas " " 22 " "
" " Edison " " 30 " "
water rose on last pot

~~25~~ 28.25
14
11300
2825
39550

2835
14
11340
2835
39690

3.5
3
10.5

Mr. Edison decided, as 5+1 jets are very tender and give only 70 lbs after a week in air and water to try future tests 3-1

#7 | 10½ oz. 2 mat
3½ oz. atlas
40 cc. water = 10%
a little cement separated.
Moulded 10-15 Am Wednesday June 7/8
but moulded 12:00 m. " " "
in water 12.80 Thursday " 8
Broken Wednesday June 14
10-45 Am
95 lbs
83 " at dampness
95 " " "
3 | 273
91

78.25
16
169 50
28 25
45 20 0

#8 12 oz. Quartz
4 oz. alum
45 cc. water = 10%
Too little water pots very dry
In mould 11 Am. Wednesday June 7.
Out " 12 PM " " "
In water 12 " Thursday " 8
Pulled Wednesday June 14 10-45 Am
75 lbs at clamps
60 " " "
39 " "
174
58

#9 Made glass 3½ oz of Lehigh
" on 100". 20 cc water 12.30
Thermo 90° 1st set 2-3 hours
near 2nd " 18 "

#10 3½ oz of Lehigh Thermo 200
29 cc water 2-15 PM
very dry
4"x4" pot

$\frac{2825}{11300}$

No. 11.–
3½ oz of Lehigh Thin 200
30 cc water
a little too moist
4"×4" pat made on glass

No. 12 – 3 oz Quartz
1 " Lehigh Thin 200
11 cc water = 11%
Moulded 3 P.M. Wednesday June 7
out mould 5.15 " " "
in water 12 m Thursday " 8

Pulled Wednesday June 14
150 lbs at clamps

4 : 14 :: 10 : 35

$$4\overline{)140}\ (35$$

10

#13 — 75

3 oz. Quartz
1 oz. 180–190 Lehigh
10 cc. water = 8 3/4 %

In mixing dry the 180–190 separated. Made good date —
Mixed 3-20 P.M. Wednesday June
out moulds 5-15 " " " " "
in wet 12 Thursday 18

Pulled Wednesday June 14.

#20 — 20 lb. Calumet

#14 3½ oz Lehigh on 100

23 cc water

in pot 9 AM Thursday June 8

out moulds 12:30

1 Pat in water from Friday " 9

Pulled from 15-20 lbs clamps

#15 4 oz Lehigh on 100

30 cc water

a little too much water

pot broke nearly all to pieces

in taking most of moulds from —

— from Thursday June 8

In water " Friday " 9

#16 2½ oz Quartz
2½ oz Lehigh on 100
20 oz water O.K.
In mounted 9.30 Am. Thursday June 8
out " 2.15 P.M. " " "
1 foot in water noon Friday " 9
Pulled June 15 – 18 lbs ok

#17 3 oz Quartz
1 oz Lehigh 1.00-140
100 oz water
In mounted 10 Am. Thursday June 8
out " 2 P.M. " " "
1 foot in water noon Friday " 9
Pulled June 15 – 16 lbs clamps

#18 3 oz Quartz
1 oz. 150–160 Lehigh
10 oz water
in mould 11-15 AM Thursday June 8
out " 2-30 PM Friday " 9
1 Pot in water room
Broken in clamp in machine

#19 3 oz Quartz
1 oz 160–170 Lehigh
10 oz water
in mould 11-30 AM Thursday June 8
out " 2-30 P.M. Friday " 9
1 pot in water room
Pulled June 15 16 lb clamps

#20 see #13

3 oz Quality
1 oz Lehigh 180-190
10 cc water
in moulded 12 M Thursday June 8
out " 2-30 " " "
1 Pot in water noon Friday " 9

Pulled June 15 19 lbs at clamps
Also #13 20 "
— #22 15
15
70
17 1/2

#21 6 oz Quality
2 oz Lehigh Thru 200
22 cc water
moulded noon Thursday June 8
out moulded 2.30 PM " " "
Put 2 pots in water noon Friday " 9
Pulled June 15 202 lbs at clamps
223 " at "
425
212 1/2 lbs

10 1/2
8 1/2
14

2825
14
1130.0
2825
3958.0

#22 10 1/2 oz Quartz sand
3 1/2 " Lehigh 180-190
35 cc water = 8 3/4 %
moulded 3-30 Thursday June 8
3 pats see #13 & #20 5 pats
out 5-45 P.M. " "
in water noon Friday " 9
one broke in clamps in machine
Pulled June 15 16 lbs at clamps
15 " " " "
see #20 — 15 1/2

#23 10 1/2 oz. Quartz sand
3 1/2 " Regular Lehigh
40 cc. water = 10 %
moulded 4-15 P.M. Thursday June 8
3 pats out 5-45 " " "
in water noon Friday " 9
Pulled June 15 137 lbs clamps
137 " "
153 " ok
427
142

Scheme of Tests

Sift enough each kind of cement to make test.

	2 pats	neat	on 100
	2 or 3 "	1-1	on 100
	3 "	3-1	100-140
Omit	3 "	3-1	160-180
	3 "	3-1	180-190
	3 "	3-1	"Thru 200"
	3 "	3-1	1st run "Thru 200"
	3 "	3-1	2nd " " "
	3 "	3-1	mix of cement
	3 "	Same amount of 3-1 "Thru 200" that is in last test	

pull in 7 days
1 day air 6 days water

#24 10½ oz Quartz
3½ oz 100-140 Lehigh
35 cc water
in moulded 9 A.M. Friday June 9
out " Noon " "
in water " Saturday " 10
one foot in air Thursday June 15
June 16 air Broke less than 10 lbs
" " " "
" " " "

#25 – 10½ oz Quartz
3½ " 160-170 Lehigh
35 cc water
in moulded 9 A.M. Friday June 9
out " Noon " " "
in water " Saturday " 10
one foot in air Thursday P.M. June 15
June 16 air Broke less than 10 lbs

3½ oz Lehigh Cement Thru 200

= 3.5 X 8/10 =

or 1/5 less = 2.8 oz.

7/10 oz = 21.77 Grammes

28.25
.7
21.775

10.5
2.8
13 3

28.25
133
8475
8475
2825
375725

35. | 9.2E
3384
1160

35 | 133.3 | 38
105
280

#26 10½ oz Quartz

3½ oz less 21.75 Grammes of Thru 200 Lehigh

35 cc water 9.2%

Mould 10-15 Am Friday June 9

Two wood — One Brass

This represents the fines in

plate 3-1 all coarse

left out. Pat from two mould together

Out mould 12 m Friday June 9

in water from Saturday 11 10

one pat in air Thursday June 15-2 yo

Pulled June 16

240 clamps

water 215 ok

455

227½

#27 — 10½ Oz Quartz
3½ oz Lehigh First ½ out
of 10 oz "Thru. 200" mesh screen
40 cc water
in mould 11-15 Am Friday June 9.
out mould 12 m " " "
in water Saturday " 10
one foot in air Thursday June 15 247 lbs
Pulled June 16 at clamps water 325 "
" " " 318 "
890
297

#28 — 10½ Oz Quartz
3½ oz Lehigh 2 and ½
out of 10 oz "Thru 200"
40 cc water
in mould 11-45 Am Friday June 9
out 12-30 " " "
in water " Saturday 1. 10
One foot in air Thursday PM Jun 15.
air 269 lbs clamps
water 262 " "
Pulled June 16 " 252 " "
783
261

#29 Aleens

3½ oz On 100

30 cc water ok.

Inserted 8-45 Am. Saturday June 10

out " 11-30 " " " "

in water 9-00 " Sunday " 11

Pulled Jun 17 105 lbs ok

#30 Same as #29

Inserted 8-45 Am Saturday June 10

out " 11-30 " " " "

in water noon Sunday " 11

Pulled Jun 17 103 lbs at clamps

105

average 104

#31 5 oz Quartz 100
5 oz Alsen cm 100
50 cc water
moulded 9 Am Saturday June 10
cut " 11-30 " " "
2 pieces in water noon Sunday " 11
Pulled June 17 - 52 lbs at clamps
51 " " "
average 51½ lbs

#32 10½ oz Quartz
3½ oz Alsen cement
50 cc water
moulded 10-30 Am Saturday June 10
cut " 11-30 " Sunday " 11
put water noon
Pulled June 17 162 lbs OK
" " 181 " clamps
" " 194 " OK
527
176 lbs

#33 10½ oz Quartz
3½ oz Alcohol Thru 200
50 cc water
mixed 11 Am Saturday June 9 0
out 12-30 " Sunday " " 11
in water noon Sunday " " 11
Pulled ~~Saturday~~ Saturday Jun 17 317 lbs clamp
291 " ok
310. clamp
918
306

#34 10½ oz Quartz
3½ oz Alcohol 180-190
40 cc water
mixed 11-20 Saturday June 9 0
out " 12-30 " " "
in water noon Sunday " " 11
Pulled Saturday June 17 45 lbs clamp
46 " OK
45 " "
136
45½

#35 10½ oz Quartz
3½ " Alum 160-170
35 cc water
Moulded 12-05 Saturday June 9 0
out 1 2-30 " " "
in water noon Sunday " "
Pulled June 17 32 lbs Clamp
34 " "
35 " "
3) 101
33⅔

#36 10½ oz Quartz
3½ oz Alum 100-140
35 cc water
wood Moulded 12-20 Saturday June 10
out 2-30 " " "
very tender in water noon Sunday " "
Pres Chem 10 lbs June 17
" " 22 " " "
" " 24 " " "
3) 56
19 lbs

~~#37 10½ oz Quartz~~
~~3½ oz Alum less 21.75 Grams~~
~~35 cc water~~
~~Moulded 12-45 Saturday June 9~~
~~out 2.20 " 12~~
~~in water noon Sunday " 11~~
~~8 Days Pilled Monday 184 lbs ok~~
~~157 " "~~
~~265 " "~~
~~606~~
~~202 lbs.~~

#38 10½ oz Quartz
3½ oz Alum first run
from 11 oz Alum "5 Run 200"
40 cc water
Moulded 3-P.M. Saturday June 10
out-mould 4.30 " "
in water noon Sunday " 11
Pilled June 276 lbs Lumps
269 " ok
315 " "
860
287

#39 10½ oz Quartz
3½ Edison Second run
from 11½ oz "Thin Disc"
40 cc water

Moulded 3+8 Pm Saturday June 10
out moulded 4.30 " Sunday " 11
in water noon

Pulled June 17 232 lbs clamps
224 " OK
213 " "
3 669 223

#40 10½ oz Quartz
3½ oz Edison Thin 7/1000 slit
35 cc water

in mould 11.45 Am Sunday June 11
out " 1.50 " " " 12
in water Monday

70 lbs ok
67 " clamps

Pulled June 18 68½

#41 10½ oz. Quartz
3½ " Dyskerhoff
35 cc water
moulded 12 noon Sunday June 11
out 1-52 " " "
in water noon Monday " 12
Pulled June 18 128 lbs damp
101 " "
239
119½

#42 10½ oz. Epsom salts from pile
3½ oz Alsen
50 cc water dry
Moulded 10 AM Monday June 12
in water noon Tuesday " 13
Pulled Monday June 19 65 lbs damp
76 " "
56 " "
197
65⅔

#43, 10½ oz Quartz
3½ oz Dyckerhoff Thru 200
35 cc water

Moulded 11 A.M. Monday June 12
in water noon Tuesday " 13
Pulled June 19. 109 lbs clamps
142 " OK
125 " clamps
376
125⅓

see #68

#44 10½ oz Quartz Dyckerhoff
3½ oz 1st mm Thru 200
35 cc water

Moulded 12 m Monday June 12
in water noon Tuesday " 13
108 lbs clamps
134 " OK
108 " clamps
350
116⅔

45 10½ oz Quarts Dryokerhoff
3½ oz 2nd run from 200
see #69
35 cc
moved 12-30 Monday June 12
in water Tuesday " 13
Pulled June 19 98 lbs clamps
101 " OK
106 " clamps
305
101½

#46 7 oz Dryokerhoff on 100
60 cc water too much
not enough to make two forts
by material added to same
fort
#46 wet
moved 9-45 Tuesday June 12
out 1-15 " 14
in water noon Wednesday

#47 Dry bottom in taking out
June 20 - 122 lbs OK.

Test of 29" rolls with Omer 63, 118
wide corrugations and large rolls
80 lbs. air 10 Grooves taken

On 100	1.25	12.5 %	40 %
" 200	2.75	27.5	
Thru "	5.85	58.5	
	9.85	98.5	

Load on Main Shaft 231 r.p.m
No " " " " 260 "

Elevator worked badly
Lacey said too fast speed

28.25
16
16950
2825
45200) 650 (14.4
452
1980
1808
1720

#48 8 oz Quartz
8 oz Dyckerhoff on 100
65 cc water = 14.4
in moulds 10 am Tuesday June 13
out " 11-30 " "
in water noon Wednesday " 14
Pulled June 20 46 damp
58 "
54 ok
158
52 2/3

#49 10 1/2 Quartz
3 1/2 Dyckerhoff Ibm 200
35 cc water Dry
In moulds 11-30 Tuesday June 13
out " " " "
2 Brass moulds
1 wood
in water noon Wednesday " 14
Pulled June 20 81 Ubs damp
108 " "
99 "
288
96

#50 10½ Quartz
3½ Dyckerhoff Thru 200
45cc Water ok
Moulded 2-P.M. Tuesday June 13
out " " " " " "
in water Noon Wednesday " 14
Pulled June 20 170 clamp
205 ok
181 clamp
656
185 lb.

#55 10½ Quartz
3½ oz Dyckerhoff Thru 200
55 cc water — water —
— to top
moulded 3-0 P.M. Tuesday June 13
out " 5 " " " "
in water Noon Wednesday " 14
213 lbs ok
193 "
203 "
609
203

28.25
6
169.50

#60 10½ oz Ethan Sand
3½ oz Alcen
60 cc water & little water
more
moulded 3 45 P.M. Tuesday June 13
out 5 noon " Wednesday " 14
in water
Pulled June 20 - 109 lb ok
121 " clump
73 " ok
303
101

#61 4½ oz Quartz
1½ oz Alcen Thm 200
added 40 cc water powdery
not mixed
15 cc cohesive slippy and
does not matter time!
21 cc ~~about~~ right
amount to work well
25 cc still right a
little wet expanded
30 cc mushy
35 " working
40 " water runs out of house made
in glass 2nd time final pat.

#62 4½ oz Quarty
1½ oz Eagle Thin Dry
acidded water
10 cc Dry ~~not~~ powdery
17 " "
20 " very fair
25 " good but wet water
rises to top of # moss on
bottom
31 cc mushy
36 " ~~[illegible]~~ & working ~~[illegible]~~
43 working run out
Made put on glass
After 11 hours wet fixed wet

#63 Gl 1/2 oz Quartz
1 1/2 oz Leghorn Thm 200

10 sec water dry powdery
15 " " just caking
20 " " right for wet
25 " " see to top
30 muchy
35 working
40 " ~~at~~ aspirated
made put on glass.
after 16 hours not final set

226) 55 (24.3
452
980
904
76

see #46

#64. 8 oz. Dyckerhoff on 100

55 cc water = 24.3%

Moulded 10-15 Am Wednesday June 14

Cut water 12-30 " " " June 14

Pulled June 21 53 lbs clamp

" 45 " "

98

49

#65 10½ oz Ebiana Sand

3½ oz Dyckerhoff Thru 200

60 cc water

Moulded 10-30 Am Wednesday June 14

Cut " 12-30 " " " " 15

water

June 21 224 lbs OK

217 " clamp

209 " OK

645

215 lbs

10.5
2.5
13

28.25
13
8475
2825
36725) 40 (10.9
367
330

10½ 25) 10.2 (4.08
10
200

10½ oz Quarts
66 2½ oz Dyckerhoff Thm 200
representing about amount of "Thm 200" in 2½ oz Dyckerhoff.
40 ~~35~~cc water
Moulded 11-45 Wednesday June 14
Cut 2 PM " " " 15
water
Pulled June 21 156 lbs clamp
183 " ok
187 " "
526
175

67 10½ oz Quarts
3½ oz Dyckerhoff 180-190
40 cc water
Moulded 12-15 Wednesday June 14
cut 2 " " " 15
water
Pulled June 21 34 lbs clamp
33 " "
40 " ok
107
35 ⅔

#68 10½ oz Quartz
2nd 44
3½ oz Dyckerhoff 1st run
Thru 200 mesh
40 cc water 0 oz
out Moulded 3 P.M. Wednesday June 14
5 " " " " 15
water
Pulled June 21 168 lbs clamps
146 "
142 "
454
151

#69 10½ oz Quartz
3½ oz Dyckerhoff 2nd run
See #45
Thru 200 mesh
40 cc water 0 oz
out Moulded 3-30 P.M. Wednesday June 14
5 " " " " 15
water
Pulled June 21 154 lbs clamps
146
127
427
142½

#70 10½ oz Quartz
3½ oz Oyster shell Lime 2-1
40 cc water

Dressed ~~4.15~~ 4.00 Wednesday June 16
Rest 5 " " "
Water
Pulled June 21 15.0 lbs clamp " 15
11.5 " "
77 "
34.2
114 lbs

#71 4½ oz Quartz
1½ oz Vulcanite Thru 200
40 cc water ~~not~~ wetting
June 14 4-30 made plat

#71 4½ on plat 4"X4"
24 hours not hard

72 4½ oz Quartz
1½ " Lehigh Thru 200
40 cc water wetting
on plat 4"X4"
24 hours not hard

#73 4½ oz Quartz
1½ oz alum Thm 200
40 cc water waiting
on glass plate
June 14 on pl Cat. 4"X4"
24 hours hard
48 hours harder than #71 & #72

#74 4½ oz Quartz
1½ oz Dychrchroff Thm 200
40 cc water
on glass plate 4"X4"
24 hours hard
48 " harder than #71 & #72

#75 10½ oz Quartz
3½ " 100-140 Dyckerhoff
40 oz water
mixed 9-45 AM Thursday June 15
water 2 P.M. " " " 16
water Rolled June 22 25 lbs damp
24 " "
23 " "
72
24

#76 10½ oz Quartz
3½ oz 150-160 Dyckerhoff
45 oz water
mixed 10-15 AM Thursday June 15
water 2 P.M. " " " 16
water Rolled June 22 23 lbs damp
" 30 " "
" 30 " "
83
27⅔

28.25
14
11300
2825
37550) 75.00 (19
39.55
254450
31595

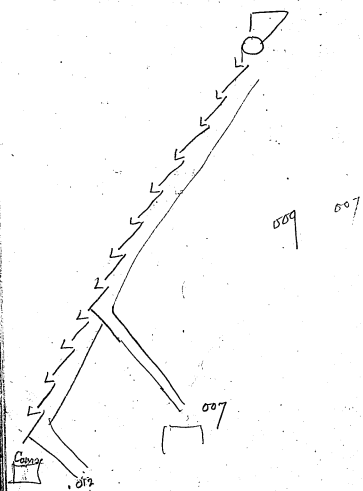
#77 10½ oz Quartz
3½ " 160-170 Oysterhoff
45 oz water
moulded 10-30 Am Thursday June 15
out 2 P.M. " " " lb
water
Pulled June 22 32 lbs. clamp
22 " "
21 " "
75
25

#78 10½ oz Quartz
3½ oz Oysterhoff Thm 2nd
fuels cooled not reverse data
6 oz water water rose
Moulded 3 P.M. Thursday June 15
out 5.15 12 " lb
water
Pulled June 22 97 lbs ok clamp
119 " "
106 " ok
322
107⅓

#79 10½ oz Quartz
3½ " Lehigh Thin 200
75 cc water very wet
Mr Schein made one pot
" " " "
moulded 3 P.M. Thursday June 15
out 5-30 " " 16
water
Pulled June 22 151 1/3 clumps
114 " ok
265
132 2/3

#80 10½ oz Quartz
3½ " Alsen Thin 200
75 cc water
moulded 3-15 Thursday June 15
one pot out 5-30 " "
Two " in 9-30 Friday " 16
water " 16
Pulled June 22 132 clumps
156 "
170 OK
458
152 2/3

Roller feed to be run by motor
6" roll feed 20 r.p.m.



vary proportions
" amounts fed
" no screen plates
vary size at -012

2000
3000
40 up to 6000 -

#81 10½ oz Quartz
3½ oz Vulcanite Thru 200
75 cc water very wet

Moulds 4. P. m. Thursday June 15
out 9-30 Friday " 16
water Pulled June 22 159 lbs ok
145 " damp
202 " ok
506
168½

#82 10½ oz Quartz 10 mesh
3½ oz Vulcanite Thru 200
45 cc water

Moulds 4-30 Thursday June 15
out 5-30 " " 16
water Pulled June 22 322 lbs. ok
331 " damp
286 " ok
939
.313

#83 10½ oz Quartz
3½ oz Vulcanite 2 mm out
Thm 200
45 cc water
moulded 4-45 Thursday June 15
water 16
Pulled June 22 265 lbs OK
261 " "
257 " "
783
261

#84 10½ oz Quartz
3½ oz Edison Thm 200
40 cc water
moulded 9-45 Friday June 16
Thm "
out water Moon Tuesday 17
Pulled June 23 82 lbs clamps
102 " "
115 " "
299
99 3/4

#85 | 7 oz of Vulcanite taken and sifted

3½ oz on 200 mesh

10½ oz Quartz

40 cc water OK

Moulded 10-10 Friday June 16

out ~~Am~~ " 17

water ~~noon~~

Pulled June 23 71 lbs clumps

69 " "

55 " OK

197

65 2/3

86 10½ oz Quartz

3½ oz Vulcanite thru 200

from 7 oz above mentioned

42 cc water +

Moulded 10-30 Friday June 16

out ~~Am~~ " " 17

water ~~noon~~

Pulled June 23 289 lbs OK

365 " "

355 " "

1009

336 1/3

226) 350 (1.54
226
1240
1130
900

87 8 oz Vulcanite On 100
35 cc water = 15.4%
mould 10-45 Friday June 16
out noon " " 17
water noon
pulled June 23 ○ lbs 2 pats
pats cracked badly

88 10½ oz Quartz
3½ " Vulcanite
40 cc water
mould 1-45 Friday June 16
out 8 m " " 17
water noon
Pulled June 23 229 lbs OK
187 " "
220 " Clamp
636
212

267 733
35 35
3665
2199
25655

3672) 85000 (95
33045
19320

#89 10½ oz. Quartz.
3½ oz. Vulcanite, Thm 200
40 cc. water
moulded 2-45 Friday June 16
out 5.15 " " "
water noon " " 17
Pulled June 23 270 lbs OK
295 " "
315 " "
880
293½

#90 10½ oz. Quartz.
2½ oz. Vulcanite, Thm 200
35 cc. water
moulded 3-15 Friday June 16
out 5.30 " " "
water noon " " 17
Pulled June 23 210 lbs OK
197 " damp
143 " "
550
183½

184) 1000 (5.43
920
800
736
640

00543
0022
323

Fredrie 11 ... page
Riehle wire dia". 0024. diam
25 in 1/8" or 200 per inch
~~Dig~~ size hole 0.0025 across
$\boxed{0026}$

New screen
wire 0". 0022 diam
has 23 in 1/8" or 184 per inch
hole is 0.004 $\boxed{0.00323}$

#91 8 oz Vulcanite Thru 200
taken and sifted in 2 oz
lots — was lost sifter
10½ oz Quartz
3½ oz First lot Thru 200
40 cc water
Started 4 P.M. Friday June 16
out 5:30 " " "
water moon " " 17
Pulled June 23 335 lbs OK
395 " " very damp
363 " "
1093
367 1/3

#92 2nd Lot Thru 200
10½ oz Quartz
3½ oz Vulcanite 2nd Quartz Thru 200
40 cc water
Started 4:30 P.M. Friday June 16
out 5:30 " " "
water moon " " 17
Pulled June 23 296 lbs damp
329 " OK
327 " "
952
317 1/3

#93 4th Quarter Vulcanite Thru 200

10½ oz Quartz

3½ oz 4th Quarter Thru 200

40 cc water

Did not stick to brass mould

~~to~~ it was difficult to turn mould

over

Moulded 4:45 P.M. Friday June 16

cure 5:45 " " "

water noon " 17

Pulled June 23 144 lbs OK

149 " "

135 " clamps

428 132 2/3

#94 1st Quarter Alsen Thru 200

10½ oz Quartz

3½ oz Vulcanite Thru 200

1st Quarter

42 cc water

Moulded 5:15 Friday June 16

cure 5:45 " " "

water noon " 17

Pulled June 23 290 lbs OK

272 " clamp

257 " "

819 273 lbs

#95 ~~4th~~ 4th Quarter Alsens
10½ oz Quarts
3½ oz 4th Quarter Alsens
40 cc water
moulded 5-20 AM. Friday June 16
2 out 5-05 " " " " 17
water ~~warm~~
Rolled June 22 119 lb clamp
13½ " OK
132 " clamp
383 127⅔

#96 Alsens Thru 200 Split with
four parts by screening Thru
200 mesh
10½ oz. Quarts
3½ oz. 4th Quarter Alsen Thru 200
40 cc water
moulded 9-15 AM Saturday June 17
water ~~warm~~ " 18
Rolled June 24 92 lb ~~lb~~ clamp
133 " OK
183 " "
408
136

#97 10½ oz Quarts
3½ oz 1st Quarter Thru 200
40cc water Alsens
moulded 9-40 Saturday June 17
water noon " 18
Pulled June 24 280 lb ok.
323 " "
332 " clamp
935
311⅔

#98 10½ oz Quarts
3½ oz 2nd Quarter Thru 200
40cc water Alsens
Moulded 10-Am Saturday June 17
water noon " 18
Pulled June 24 242 lb ok
271 " clamp
162 " "
675
225

#99 10½ oz Quartz
3½ 3rd Quarter Thur 2nd
40 cc water Albany
~~[illegible]~~ 10-20 Am Saturday June 17
out water noon " " " 58
Rolled June 24 298 lbs OK
241 " clamp
234 " OK
773
257 2/3

#100 Lehigh split see #96
4th Quarter or Cosson
10½ oz Quartz
3½ oz 4th Quarter 7 hour 2nd
40 cc water Lehigh
mould 10-45 Am Saturday June 17
out water noon " " " 18
Rolled June 24 134 lbs Clamp
122 " OK
128 " "
384
128

#101 10½ oz Quartz
3½ oz 1st Quartz Jhm 205
Lehigh

Moulded 11-50 am Saturday June 17
out " " " " "
water " " " 18
Pulled June 24 200 lbs clamp
295 " OK
204 " "
799
266⅓

#102 10½ oz Quartz
3½ " Edison as through seg-
ular resent about 70 lbs an
hour.
38 oz water
moulded 9-45 am Monday June 19
out " " " "
water
Pulled June 26 39 lbs clamp
37 " OK
38 "
114
38 lbs

#103 10½ oz Quartz
3½ oz Edison same as in
#102 ground by 500
turns in rotary mortar
40cc water
moulded 10-15 Monday June 18
out Quartz " " " "
Pulled June 26 141 lbs OK
142 " OK
134 "
417 139

#104 10½ oz Quartz
3½ " Lehigh regular
moulded 11-45 Monday June 18
out Quartz " " "
Pulled June 26 168 lbs Clamp
175 " OK
150 " Clamp
493
164⅓

2-1	Regular	Throw 200	1st Rem Throw 200	2nd Rem Throw 200	180 - 190	Dist 100
high	142	212	297	261	17½	18
lean	176	306	287	223	45	105
[illegible]	119	125	117	102		122

Ethan " 500 Trans Reg " #103 139 1/10
" " 3rd 1/4 " 108 171 "

	3-1		3-1		3-1		3-1		3-1		3-1		3-1		3-1		3-1		3-1		3-1		# -1		Heat
	Regular		Thorn 200		1st 1/2 Thorn 200		2nd 1/2 Thorn 200		1st 1/4 Thorn 200		2nd 1/4 Thorn 200		3rd 1/4 Thorn 200		4th 1/4 Thorn		1st 1/8 -190		on 100		on 100		
	9 Inches		1/4 Inches		1/2 Inches		1/2 Inches										3/4		1/2		1/4			
Lehigh	10	142	9	212	10	297	10	261	x	266					10	127	3/4	17	15		18	23		15
	x	164	9 1/2	227													7	19						
			19	132																				
Alsen	10	58	12 1/4	306	10	287	10	223	10 1/2	273	10	225	10	258	10	127	10	45	17		57	30		104
	12 1/2	176	19	156					10 1/2	212					10	136								
Bychchoff	8 3/4	119	8 3/4	185	8 3/4	117	8 3/4	101	10	139					10	86	10	36	14.4		12 x			132
			9	80																	26.2			49
			11 1/4	185	10	157	10	142																
			13 3/4	223																				
			16	110																				
Vulcanite			19	169	11 1/4	313	11 1/4	261	10	364	10	317			10	133					18.4			0
Atlas	10	152	10	226					10	328					10	169								
Ethan	10	38			10	50			10	85					4th	32								

65
29
94

13.4
218
1072
134
2681
29.212

875
25
4375
1750
21875

65 | 875 (13.4
65
223
193
300
260

218
875
1093

#105 10½ oz Quartz
3½ oz Edison Thru 200 again
sifted 1st Quarter
40 cc. water
moved 12-15 Monday June 19 1899
wet PM water " " " 20
Pulled June 26 110 lbs ok
" " 74 " clamp
70 " "
254
8 42/3

#106 10½ oz. Quartz
3½ oz. Edison Thru 200
4th Quarter on sieve
40 cc. water
moved 12-45 Monday June 19. 1899
wet PM water " " " 20
Pulled June 26 29 lbs clamp
34 " "
32 " "
95
31 2/3

#107 10½ oz Quartz
3½ oz Dover Koff Thru 200
4th Quartz on cure
240cc water

Mend 1 — P.M. Monday June 19
wt 5 water " " " 20
Pulled June 26 86 lbs ok
78 " "
94 " dents
258
86

#108 10½ oz Quartz
3½ oz Edison 3rd Quartz
Thru 200 Ground 500
times in mortar.
40cc water

Moulded 2-30 P.M. Monday June 19
wt 5 water " " 20
Pulled June 26 158 lbs ok
200 " dents
156 " "
514
171⅓

#109 10½ oz Quaky
3½ oz 1st Quarter Thins
200 hydroxychloroquine
140 cc water
mixed 3-15 PM Monday June 19
out 5.30 " " " "
Rolled June 26 167 lb clamp
149 " "
101 " "
417
139

#110 — 10½ oz Quaky
3½ oz Atlas Thin 200
1st Quarter split
40 cc water
Data very thoroughly worked home
mixed 4-15 Monday June 19
out 6 " " " "
Rolled June 26 320 lb OK
336 " " "
328 " clamp
984
328

#111 10½ oz Quartz
3½ oz Atlas Thrm 2vs
J. H. Lucas on Degen
40 oz water
moulded 4-30 P.M. Monday Jun 19
out 6 " " " " 20
Pulled June 26 165 lbs clamp
159 " oz
184 " "
508
169⅓

#112 10½ oz Quartz
3½ " Atlas Thrm 2vs
40 oz water
moulded 5:30 P.M. Monday June 19
out 6 " " " " 20
Pulled June 26 253 lbs oz
210 " clamp
216 " "
679
226⅓

#113 10½ oz Quartz
3½ oz Atlas
40 cc water

moulded 5.50 pm Sunday June 19
only
Pulled June 26 173 lbs OK " 22
130 " "
154 "
457
152⅓

June 19 1899 6-P.M

Rolls out down 1. 25" chain.

6" across corrugations

About 2/3 fresh material

Roller feed up 3½" and rolls reversed to take material as fast as it was delivered from roller feed. Material brushed out by lower side of roller feed

80 lbs air

Roller Feed closed to ~~2½"~~ 2½"

material run in O.K. 80 lbs

compressor taken at end of 5 minutes.

11 Grammes taken

Or 100 mes

1.5	15
1.85	18.5
6.25	62.5
9.60	

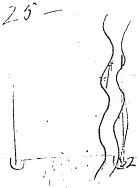
June 20 1899

Lot 60	#1 -	109 lb.	OK.
	#2 -	121 "	clamp.
	#3 -	73 "	OK
Lot 55	#1 -	213 "	OK
	#2 -	193 "	"
	#3 -	203 "	"
Lot 49	1 -	81	clamp.
	2 -	108	"
	3 -	99	"
Lot 48	1 -	46	"
	2 -	58	"
	3 -	54	OK.
Lot 50	1 -	170	Clamp.
	2 -	205	OK
	3 -	181.	Clamp. from melt
# 46	-	122	OK.

175 —

25 — 100 —

85 —



74 —

2 6.0

12./80 / 72 / 8.0 (6.6 .12 / 32

6/80 / 113.3 —

2 —

$2\frac{1}{4}$ —

$2\frac{1}{2}$

June 21 —

L.K. 64	#1 = 53 1/4	Clamp.
	#2 = 45	" "
65	1 = 224	O.K.
	2 = 212	Clamp.
	3 = 209	O.K.
66	1 = 156	Clamp.
	2 = 183	O.K.
	3 = 187	O.K.
67	1 = 34	Clamp.
	2 = 33	
	3 = 40	O.K.
68	1 = 168	Clamp.
	2 = 146	"
	3 = 140	"
69	1 = 154	"
	2 = 146	"
	3 = 127	"
70	1 = 150	"
	2 = 115	"
	3 = 77	"

June 22

Test made

10 Grammes Tohm

On	100	1.85	18.5
Thm	200	5.70	57 %

111 Bbls.

9½ Bbls of cement 25% on 200 mesh on hour

This grinding was on new clinker from Lehigh

Alcen	ZnH_2O	Lbs
#8 Reg	10	58
32 "	12½	176
60 "	15	101

On 100 neat	
	ZnH_2O
#29	30	10#

Thin 200 ZnH_2O

#33	12½	306
50	19	153

Finish 1/2 Thin 200

38	10	287
neat 39	10	223

50 | 400 (2.66 [illegible]
300
1000
1900
1000

25 | 840 (33
75
90

25.

400 | 2240 (5.6
2000
2400

150
56
90
75
84000

Notebook, N-99-06-22.1

N-99-06-22-1

Cement Notes
June 22, 1971
Washington

1

B-1

Alsen

No.	Sand Cement	Mesh	Gr.	Pull lbs
8	3 — 1	Reg.	10	3 75 8
29/30	neat	[illegible]	30	2 105 104
31	1-1	" "	17	2 52 51
32	3-1	Reg.	12½	3 149 176
33	3-1	Thm 200	12½	3 317 306
34	3-1	180-190	10	3 46 45
35	3-1	160-170	10	3 35 33⅓
36	3-1	100-140	8¾	3 49 19
38	3-1	First ½ Thm 200	10	3 375 387
39	3-1	Second " " "	10	3 232 223
42	3-1 Sand	Reg Dry	12½	3 76 66
60	3-1 "	Reg	15	3 121 101
80	3-1	Thm 200	19	3 190 153
94	3-1	First ¼ Thm 200	10½	3 290 273
95	3-1	Fourth ¼ " "	10	3 132 127
96	3-1	Fourth ¼ " "	10	3 143 136
97	3-1	First ¼ " "	10½	3 332 312
98	3-1	Second ¼ " "	10	3 271 225
99	3-1	Third ¼ " "	10	3 278 258
122-3	3-1	Second " "	12½	3 270
128	3-1	Third ¼ " "	12½	3 323
129	3-1	Alsen Reg	12½	3 127
130	3-1	Reg	12	3 85
131	3-1	"	14	3 132
132	3-1	Thm 200	14	3 271
133	3-1	" "	12½	3 283

Lehigh

No.	Sand Cement	Mesh	Z water	No Pots	Pull lbs
12	3 – 1	Thru 200	11	1	150
13	3 – 1	180 – 190	8 3/4	1	20
14	neat	on 100	23	1	15
15	"	"	31	1	—
16	1 – 1	"	15	1	18
17	3 – 1	100 – 140	9	1	16
18	3 – 1	160 – 160	9	1	—
19	3 – 1	160 – 170	9	1	15
20	3 – 1	180 – 190	9	1	19
21	3 – 1	Thru 200	9	2	212
22	3 – 1	180 – 190	8 3/4	2	15
23	3 – 1	Rug	10	3	172
24	3 – 1	100 – 140	8 3/4	3	10
25	3 – 1	160 – 170	8 3/4	3	10
26	3.8 – 1	Thru 200	9.2	2	227
27	3 – 1	First 1/2 Thru 200	10	3	297
28	3 – 1	Second " " "	10	3	261
29	3 – 1	Thru 200	19	2	132
100	3 – 1	Fourth 1/2 Thru 200	10	3	128
101	3 – 1	First 1/4 " "	x	3	266
104	3 – 1	Rug	y	3	164

Dyckerhoff

124	3-1	Fourth 1/2 Thm 200	12 1/2	3	138
125	3-1	3rd " " "	12 1/2	3	213
126	3-1	2nd " " "	12 1/2	3	221
127	3-1	1st " " "	12 1/2	3	214

Dyckerhoff

No.	Sound Concert	Mark	To water	Min.	Sto.
41	3-1	Ring	8 3/4	2 158	119
43	3-1	Thm 200	8 3/4	3 192	125
44	3-1	First 1/2 Thm 200	8 3/4	3 134	117
45	3-1	Second " " "	8 3/4	3 106	101
46-47	Mark	On 100	Ant hammer	1	122
48	1-1	" "	14.4	3 58	53
49	3-1	Thm 200	8 3/4	3 108	96
50	3-1	" "	11 1/4	3 205	185
55	3-1	" "	13 3/4	3 213	203
64	Mark	On 100	24.3	2 53	49
65	3-1	Edison Thm 200	15	3 224	215
66	4.08-1	" "	10.9	3 187	175
67	3-1	180-190	10	3 40	36
68	3-1	First 1/2 Thm 200	10	3 169	151
69	3-1	Second " " "	10	3 154	142
70	3-1	Thm 200	10	3 160	114
76	3-1	100-140	10	3 25	24
76	3-1	150-160	11 1/4	3 30	28
77	3-1	160-170	11 1/4	3 32	25
78	3-1	Thm 200	19	3 119	107
107	3-1	4th 1/4 Thm 200	10	3 94	86
109	3-1	1st 1/4 " "	10	3 167	139
120	3-1	2nd " "	15	3	166
121	3-1	3rd " "	12 1/2	3	197

Edison

No	Land Cement	Mesh	Screw	No.		Lbs.
40	3-1	Thru 7/0	8 1/4	2	70	68
84	3-1	Thru 200	10	3	115	100
102	3-1	Reg "70 Bbls"	9 1/2	3	39	38
103	3-1	Reg 70 02 500 Jumbo Motor	10	3	142	139
105	3-1	Thru 200 1st 1/4	10	3	110	85
106	3-1	" " 4th 1/4	10	3	39	32
108	3-1	3rd 1/4 500 Jumbo Motor	10	3	200	171
114	3-1	Fourth 1/4 Thru 200 "111 Bbls"	10	3		78
115	3-1	Third " " " "	10 1/4	3		224
116	3-1	Second " " " "	10 1/2	3		292
117	3-1	First " " " "	10 1/2	3		310

Vulcanite

No.	Sand Cement	Mesh	% water	No.	Lb.
81	3-1	Thru 200	19	3	202 169
82	3-1	First 1/2 Thru 200	11 1/4	3	331 313
83	3-1	Second " " "	11 1/4	3	265 261
84	3-1	Coarse on 200 - 1/2	10	3	71 66
86	3-1	Fine Thru 200 - 1/2	10 1/2	3	365 336
87	Neat	On 100	15.4		0 0
88	3-1	Reg	10	3	229 212
89	3-1	Thru 200	10	3	315 293
90	4-1	Thru 200	9 1/2		210 183
91	3-1	First 1/4 Thru 200	10	3	395 364
92	3-1	Second 1/4 Thru 200	10	3	329 317
93	3-1	Fourth 1/4 Thru 200	10	3	149 133

Vulcanite

Offers

Purchased		Meat	Feet	No.	Lbs
110	3-1	1st 1/2 Hams 2nd	10	3 336	328
111	3-1	4th 1/4 " "	10	3 184	169
112	3-1	Hams 2nd	10	3 258	226
113	3-1	Rg	10	3 173	152
118	meat	on 100			7

#135 Quartz 10½ oz
3½ oz Edison Thru 100
111 Bbls New Cinkers
40 cc water
in mould 10-45 Am Monday July 3
Pulled July 10 76 hrs clamps
41 " ok
59 " "

#136 10½ oz Quartz
3½ oz Edison Thru 200
111 Bbls New Cinkers
40 cc water
in mould 11-15 Am Monday July 3
Pulled July 10 75 hrs ok
96 " "
20 " "

40

12 30

2 1

170 1000

12/0

340

17

20.

8

2 1/2

4

12% our Cement

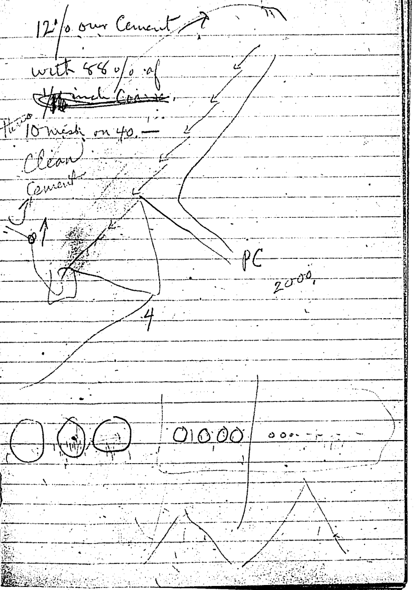
with 88% of

~~1/8 inch Coarse.~~

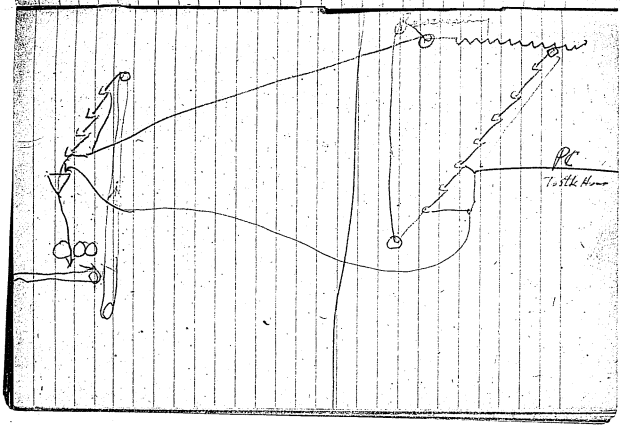
Thru 10 mesh on 40. —

Clean

Cement



PC


PC
To Stk Hom

Notebook, N-99-10-00

N-(99-10-00)

Results of
Cement-experiments. (903)

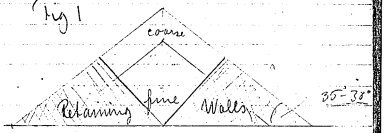
I

In a table of 48" Diameter for a cone of 44" there are eight holes 4" apart so that when running out the cone all holes run empty at the same time

Diameter of holes	I	3/4"
	II	11/16"
	III	19/32"
	IV	5/8"
	V	9/16"

II

Fig 1



Material for the experiments.

coarse 1 on 23/1000 screen
and through 5/1000 "

fine on 9/1000 screen
through 23/1000 "

The samples are separated on 23/1000 Hand screen.

The amount of stuff run out through the mentioned 10 holes separents ca 26 % of the hole cone.

#394

The cavity formed by running out the 64 lbs. filled up with 64 lbs coarse. See Fig 1

15 second average taken

	in lbs			in percent		
	fine	coarse	total	fine	coarse	difference
1	14.250	7.250	21.500	66.35%	33.65	+ 32.70
2	6.750	13.500	20.250	33.35	66.65	- 33.30
3	7.000	13.000	20.000	35.00	65.00	- 30.00
4	10.312	10.000	20.312	50.85	49.15	+ 1.70
5	13.250	8.750	22.000	60.35	39.65	+ 20.70
Balance	13.312	6.563	19.875	67.00	33.00	+ 34.00
Total	64.874	59.063	123.937			151.70

Average difference in percent

$$\frac{151.70}{6} = 25.3\ \%$$

#395.

#394. reversed.

65 lbs coarse

65 " fine

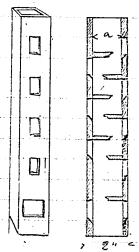
as indicated above

	in lbs			in percent		
	fine	coarse	total	fine	coarse	difference
1	4.250	13.435	17.685	24.10	75.90	51.80
2	9.813	9.125	18.93	51.80	48.20	3.60
3	17.250	5.062	22.312	77.35	22.65	54.70
4	13.150	7.250	20.400	64.50	35.50	29.00
5	8.312	10.781	19.093	43.60	56.40	12.80
Balance	10.187	21.125	31.312	32.58	67.42	34.84
total	62.962	66.778	129.740			186.74

Average difference in percent

$$\frac{186.74}{6} = 31.12\%$$

= 385.



The inner diameter
of the pipe
to make the diameter
of the

378

Wheat on line on bottom
60 lb. Grain, Wheat

385

	time	course in lbs	total	[illegible]	[illegible] in percent	[illegible]	difference
1 (5 sec)	8.000	10.435	18.435	45.40 %	56.60		13.20
2	9.094	12.906	22.000	43.35	56.65		13.30
3	9.447	10.562	20.006	47.20	52.80		5.60
4	12.375	8.687	21.062	58.8	41.20		17.60
5	13.250	7.875	21.125	62.8	37.20		25.60
Balance	10.500	8.711	19.211	54.7	45.30		9.40
Total	62.663	59.176	121.839				84.70

Average difference

$$\frac{84.70}{6} = 14.11\%$$

#309

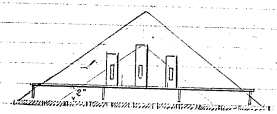
+393 ounces
60 lbs coarse under
sc. fine over

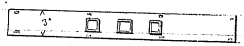
	in lbs				in %		
	fine	coarse	total	fine	coarse	difference
1	15.187	7.500	20.187	63.80	36.20	27.60
2	14.625	7.063	21.688	67.60	32.40	37.20
3	10.625	10.500	21.125	50.30	49.60	0.80
4	7.435	12.250	19.675	37.80	62.20	24.40
5	5.687	10.812	16.499	34.50	65.50	31.00
Balance	7.250	8.562	15.812	45.80	54.20	8.40
total	58.809	57.687	115.486			129.40

Average difference

$$\frac{129.4}{6} = 21.57\%$$

#417.





A platform 3" broad running over the holes 2" over the holes 3 persons in the middle

Bottomholes as description I

#420

Arrangement #417

64 lbs fine below

8 " coarse above

	in lbs			in percent		
	fine	coarse	total	fine	coarse	difference
1 (1st)	11.500	9.843	21.343	54.00 %	46.00 %	8.00 %
2	9.187	11.563	20.750	43.75	53.25	6.50
3	10.031	10.687	20.718	48.40	51.60	3.20
4	8.700	12.406	21.116	41.10	58.90	17.80
5	9.593	9.937	19.530	49.20	50.80	1.60
Balance	11.875	8.436	20.311	58.20	41.80	16.40
	60.896	62.872	123.768			53.50

Average difference

$\frac{53.5}{6} = 8.91\ \%$

425

Pipes described in # 375 changed as follows

Baffles in four middle pipes closing 3/4 of the opening

Two wide holes in four middle pipes.

Holes on one side only.

#1926

Ingot # 45.5 lbs

Fine Silver

95 - 5 Copper

	in lbs.			in percent		
	fine	coarse	total	fine	coarse	difference
1 (15 oz)	10.000	10.625	20.625	48.40	51.60	3.20
2	6.250	12.406	18.656	33.50	66.50	33.00
3	9.063	11.187	20.250	44.80	55.20	10.40
4	9.625	10.562	20.187	47.80	52.20	4.40
5	11.406	8.593	19.999	57.20	42.80	14.40
Balance	16.187	10.063	26.250	61.70	38.30	23.40
total	62.531	63.436	125.967			78.80

Average difference =

$$\frac{78.8}{6} = 13.13$$

#427 Tungsten bronze #495
5) 32 lb fine 5) 32 lb coarse
9 32 - fine, 9 32 - coarse

		fine	coarse	total	fine	coarse	difference
(1 Stage)	1	9.905	10.255	20.156	49.20	50.80	1.60.
	2	8.531	11.094	19.625	43.45	56.55	13.10
	3	9.600	11.406	20.806	44.20	55.80	11.60
	4	10.532	10.218	20.750	50.80	49.20	1.60
	5	11.593	9.281	20.874	55.50	44.50	11.00
Balance		11.250	8.250	19.500	57.70	42.30	15.30
total		60.812	60.499	121.371			54.20

Average difference

$$\frac{54.20}{6} = 9.03$$

#447.

Pipes exit down to take stuff from the top during the two first runs.

Large holes on both sides of 4 middle pipes

Holes no 2 from bottom on the two middle pipes : $1\frac{1}{2} \times \frac{1}{8}$"

444

	Outside 6 holes			Inside 4 holes		
	fine	coarse	total	fine	coarse	total
1	2.187	4.063	6.250	10.125	3.938	14.063
2	2.125	4.875	7.000	10.875	3.812	14.687
3	0.750	4.937	5.687	7.750	6.250	14.000
4	1.000	4.812	5.812	6.906	7.000	13.906
5	1.937	3.906	4.843	7.969	5.625	13.594
Balance	4.218	4.969	9.187	12.031	6.750	18.781
Total	12.217	27.562	49.779	55.656	33.375	89.031

444

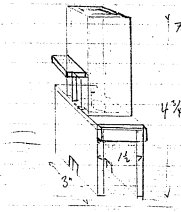
	in lbs			in percent		
	fine	coarse	total	fine	coarse	total
1	12.312	8.000	20.312	61.00	39.00	22.0
2	13.000	8.687	21.687	60.00	40.00	20.0
3	8.500	11.187	19.687	43.20	56.80	13.6
4	7.906	11.812	19.718	40.00	60.00	20.0
5	9.906	9.531	19.437	50.90	49.10	1.8
Balance	16.249	11.719	27.968	58.30	41.70	16.6
total	67.873	60.937	128.810			94.0

444

6.5 lbs fine balance
6.5 " coarse balance

Average difference

$\frac{94}{6} = \underline{15.7\ \%}$



Four pipes for the four middle holes

Bottomholes as described in #I.

#462

	Outside 6 holes			Inside 4 holes		
	fine	coarse	total	fine	coarse	total
1 (15 sec)	2.875	5.000	7.875	6.156	6.125	12.281
2	1.094	6.094	7.188	7.562	3.375	10.937
3	0.843	5.466	6.309	6.937	1.843	8.780
4	0.718	5.032	5.750	4.718	4.250	8.968
5	1.656	4.250	5.906	4.375	4.213	8.588
6	2.562	3.312	5.874	4.250	3.187	7.437
7	1.435	0.937	2.372	4.812	1.593	6.435
Balance	0.781	1.187	1.968	10.969	3.812	14.781
Total	11.964	31.278	43.242	49.779	28.403	78.182

#462 Mean Quarrent #462
60 lbs (fine & coarse) in Mortar
60 " " " " " about I

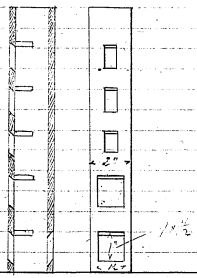
	in lbs			in %		
	fine	coarse	total	fine	coarse	difference
1 (15 sec)	9.031	11.125	20.956	44.9%	55.1	10.2
2	8.656	9.469	18.125	47.6	52.4	4.8
3	7.780	7.309	15.089	51.6	48.4	3.2
4	5.436	9.282	14.718	36.9	63.1	26.2
5	6.031	8.468	14.499	41.7	58.3	16.6
6	6.812	6.499	13.311	51.2	48.4	2.4
7	6.247	2.530	8.777	71.2	28.8	42.4
Balance	11.750	4.999	16.749	70.0	30.0	40.0
Total	61.743	59.681	121.424			147.8

Average difference

$$\frac{147}{8} = 18.37\ \%$$

#468

Pipes #385 changed as follows.
2 lower holes on front and one
hole opposite the lower front hole
on backside
Baffles closing half inner
opening



#468

	Outside 6 holes.			Inside 4 holes		
	fine	coarse	total	fine	coarse	total
1 (Base)	4.053	5.05.3	9.126	4.094	5.531	9.625
2	1.312	5.125	6.437	6.562	6.656	13.218
3	0.175	5.625	5.500	10.500	4.969	15.469
4	2.469	4.156	6.625	10.500	4.312	14.812
5	3.173	3.719	6.782	11.000	4.656	15.656
Balance	6.375	6.125	12.500	4.219	1.156	5.374
total	18.157	29.813	47.970	46.874	27.280	74.154

#468

	in lbs.			in %		
	fine	coarse	total	fine	coarse	difference
1	8.157	10.534	18.751	43.5%	56.5%	13.0
2	7.874	11.781	19.655	40.0	60.0	20.0
3	11.375	10.594	21.969	51.9	48.1	3.8
4	12.969	8.468	21.437	60.5	39.5	21.0
5	14.063	8.375	22.438	62.7	37.3	25.4
Balance	10.573	7.281	17.874	59.3	40.7	18.6
total	65.031	57.093	122.124			101.8

6 lbs fine below
6 = coarse on top.

Average difference

$$\frac{101.8}{6} = 16.97\ \%$$

567.

Cone of 44" Diameter.
The angle of the sides 36°
Height of Cone 16"
Volume of cone 11120 ☐"
Weight of Cone 6 10 lbs.

The middle of cone run out through 12. 4. 6, 8 & 10
5/16 holes 4" apart symetrical to centre.

	Amount of chip run out	Amount of chip run out in % of total cane
2 holes	105 lbs	15 %
4 "	128 "	21.1 %
6 "	139 "	22.8 %
8 "	146 "	23.95 %
10 "	149 "	24.55 %

Amount run out through 2 holes is 74 % of the amount " " 10 holes.

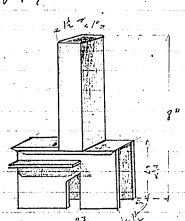
H 570 - 576

*575
Sand cone Sp. # 569
Illinois run sand through
4 holes 11" apart
6 " 7.35" "
8 " 5.5" "
10 " 4.4" "

Exp. 576 - 578.

	Amount of stuff min out	Amount of min out min out in percent of hole cone
4 holes	119.5 lbs	19.5 %
6 "	129.5 "	21.25 %
8 "	137.0 "	22.45 %
10 "	149 "	24.85 %

#579



Pipes over two 5/16 holes 2" from centre

In following experiments the samples are taken out by weight each ca. 10 lbs.

#585
Price #579
50 lbs fine under
50 " coarse above

	in lbs			in %		
	fine	coarse	total	fine	coarse	difference
1	3.625	6.469	10.094	35.8 %	64.2 %	-28.4 %
2	3.986	6.218	10.154	38.7	61.3	-22.6
3	5.281	5.031	10.312	51.2	48.8	+2.4
4.	5.094	4.937	10.031	50.7	49.3	+1.4
5	5.469	4.781	10.250	53.3	46.7	+6.6
6	5.344	4.687	10.031	53.2	46.9	+6.2
7	5.812	4.250	10.062	57.7	42.3	+15.4
8	5.675	4.312	9.987	56.9	43.1	+13.8
9	5.812	4.469	10.281	58.1	41.9	+16.2
10	4.375	5.718	9.093	37.1	62.9	-25.8
total						138.8

Average difference : $\frac{138.8}{10} = 13.88\%$

	in lbs			in %		
	fine	coarse	total	fine	coarse	difference
1	7.187	2.500	9.687	74.3 %	25.7 %	-48.6 %
2	4.287	5.712	9.999	42.8	57.2	+14.4
3	6.875	3.406	10.281	66.9	33.1	-33.8
4	5.063	5.187	10.250	49.4	50.6	+1.2
5	4.583	5.500	10.063	45.3	54.7	+9.4
6	4.094	5.875	9.969	41.0	59.0	+18.0
7	4.343	5.625	9.968	43.5	56.5	+13.0
8	4.031	6.157	10.188	39.6	60.4	+20.8
9	4.063	5.687	9.750	41.7	58.3	+16.6
10						
total	44.500	45.055	90.155			175.8

Average difference $\frac{175.8}{9} = 19.53\,\%$

4.572
4.585 Revised
50 lbs
50 - fine coarse mixture

625

Mixer # 579. Pebbles removed
Pebbles and Tyres removed from the
Mr. the left.
50 lbs coarse
50 lbs fine.

	in lbs			in %		
	fine	coarse	total	fine	coarse	difference
1	6.031	3.937	9.968	60.4 %	39.6 %	20.8 %
2	4.906	5.031	9.937	49.4	50.6	1.2
3	6.687	3.437	10.124	66.0	34.0	32.0
4	5.250	4.938	10.188	51.6	48.4	3.2
5	5.000	5.000	10.000	50.0	50.0	0.0
6	5.125	4.937	10.062	50.9	49.1	1.8
7.	4.812	5.375	10.187	47.1	52.9	5.8
8	3.906	6.156	10.062	38.7	61.3	22.6
9	3.593	6.312	9.905	36.2	63.8	27.6
10	4.313	5.906	10.219	42.2	57.8	15.6
total	49.623	49.128	98.651			130.6

Average difference = 13.06 %.

#696
+ 6.25 received
50 lbs fine in the
50 - coarse about

	in lbs			in %		
	fine	coarse	total	fine	coarse	diff.
1	5.125	5.063	10.188	50.4	49.6	0.8
2	4.188	5.750	9.938	42.1	57.9	15.8
3	5.063	5.031	10.094	50.2	49.8	0.4
4	4.406	5.594	10.000	44.1	55.9	11.8
5	4.343	5.750	10.093	42.9	57.1	14.2
6	4.594	5.468	10.062	45.7	54.3	8.6
7	5.250	4.906	10.156	51.8	48.2	3.6
8	5.531	4.594	10.125	54.6	45.4	9.2
9	5.750	4.468	10.218	56.3	43.7	12.6
10	5.687	4.344	10.031	56.6	43.4	13.2
total	49.937	50.968	100.905			90.2

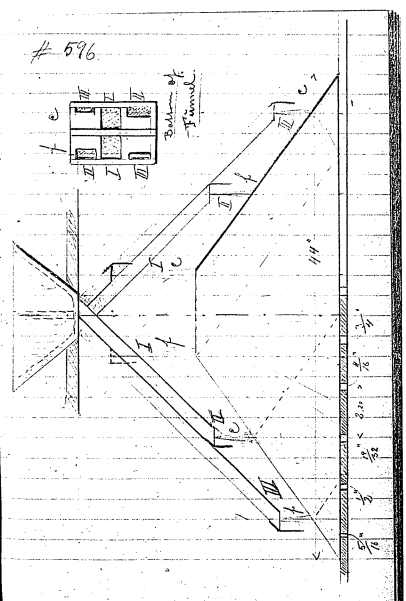
Average difference 9.02 %

596

The coarse and fine stuff is fed into separate funnels and runs through shutters to 6 points, lying on one diameter of the cone 3.20° apart here building coarse and fine piles vice versa.

The feed of each shute is by means of different sizes of holes regulated so that all shutes together fill up the cavity of a cone of 114° Dia.

The samples are taken through the holes described in # I.



597

Cone built through sieve from # 596 70 lbs fine mix 7/6 - cone above

	in lbs fine	coarse	total	in % fine	coarse	difference
1	8.125	2.063	10.188	80.0%	20.0%	+ 60%
2	5.750	4.157	9.907	58.0	42.0	+ 16.0
3	4.000	6.125	10.125	39.5	60.5	- 21.0
4	3.437	6.437	9.874	34.9	65.1	- 30.2
5	3.437	6.625	10.062	34.0	66.0	- 32.0
6	3.376	7.687	11.063	30.5	69.5	- 39.0
7	4.031	6.125	10.156	39.7	60.3	- 20.6
8	4.313	5.687	10.000	43.1	56.9	- 13.8
9	4.782	5.343	10.125	47.3	52.7	- 5.4
10	5.250	4.782	10.032	52.3	47.7	+ 4.6
11	5.625	4.625	10.250	54.9	45.1	+ 9.8
12	6.125	4.375	10.500	58.4	41.6	+ 16.8
13	4.500	5.687	10.187	44.1	55.9	- 11.8
14	4.343	5.875	10.218	42.5	57.5	- 15.0
total	67.094	75.593	142.687			29.60

Average difference $\frac{29.60}{14} = 21.15\ \%$

#602

	in lbs			in %		
	fine	coarse	total	fine	coarse	difference
1	7.438	2.531	9.969	75.0%	25.0%	50.0%
2	5.906	4.469	10.375	57.0	43.0	14.0
3	7.000	6.094	13.094	53.5	46.5	7.0
4	5.156	7.187	12.343	41.6	58.3	16.6
5	4.943	5.625	9.968	43.6	56.4	12.8
6	3.982	5.688	9.624	40.9	59.1	18.2
7	4.750	5.782	10.532	45.1	54.9	9.8
8	4.688	5.156	9.844	47.6	52.4	4.8
9	4.625	5.375	10.000	46.3	53.7	7.4
10	5.583	4.750	10.318	53.8	46.2	7.6
11	5.500	4.375	9.875	55.6	44.4	11.2
12	5.219	4.343	9.562	54.5	45.5	9.0
13	3.938	5.750	9.688	40.5	59.5	19.0
14						
total	68.063	67.225	135.188			137.4

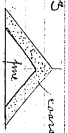
Average difference $\frac{187}{13} = 14.4\%$

70 lbs fine
70 " coarse

	in lbs			in %		
	fine	coarse	total	fine	coarse	difference
1	8.500	1.750	10.250	82.8%	17.2%	65.6%
2	6.063	3.812	9.875	61.5	38.5	23.0
3	5.250	4.875	10.125	51.8	48.2	3.6
4	3.469	6.438	9.906	35.0	65.0	30.0
5	8.656	1.469	10.125	26.2	73.8	47.6
6	3.031	6.594	9.625	31.5	68.5	37.0
7	3.781	6.594	9.375	29.7	70.3	40.6
8	4.875	5.250	10.125	48.2	51.8	3.6
9	5.250	4.937	10.187	51.6	48.4	3.2
10	5.063	5.125	10.188	49.6	50.4	0.8
11	6.187	3.812	9.999	61.9	38.1	23.8
12	5.531	4.187	9.718	56.8	43.2	13.6
13	5.969	5.875	11.844	50.4	49.6	0.8
14	4.063	3.750	7.813	52.9	48.1	3.8
total	69.688	70.468	140.156			297.0

Average difference = $\frac{297}{14}$ = 21.2 %

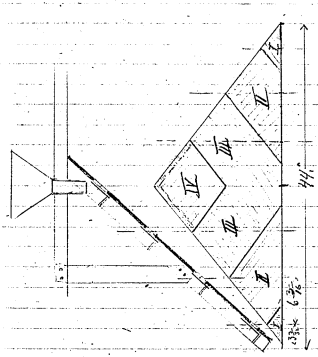
#605



70 lbs fine
70 " coarse

683.

Samples taken out through the holes described in # I



#634

Arrangement #633

Cases I 3 lbs coarse each

II 14 " fine "

III 30 " coarse "

IV 42 " fine under ¼ lbs coarse

	fine	coarse	total	fine	coarse	diff.
1	3.500	6.531	10.031	35.0	65.0	30.0
2	3.375	6.781	10.156	33.3	66.7	33.4
3	4.125	6.031	10.156	40.6	59.4	18.8
4	4.875	5.000	9.875	49.4	50.6	1.2
5	5.469	4.531	10.000	54.7	45.3	9.4
6	5.969	3.875	10.844	64.3	35.7	28.6
7	5.563	4.437	10.000	55.6	44.4	11.2
8	4.437	5.687	10.124	43.9	56.1	12.2
9	4.375	5.563	9.938	45.0	55.0	10.0
10	3.937	6.000	9.937	39.6	60.4	20.8
11	4.937	5.125	10.062	49.0	51.0	2.0
12	4.250	5.750	10.000	42.5	57.5	15.0
13	4.813	5.156	9.969	48.2	51.8	3.6
14	5.031	4.875	9.906	50.7	49.3	1.4
tot	64.656	75.339	139.996			197.6

Average difference : $\frac{197.6}{14} = 14.1\%$

#635

#634 represents
Corn I 3 lbs fine, each
II 14 " coarse "
III 30 " fine "
IV 42 coarse and 8 & 9 lbs fine above

	in lbs			in %		
	fine	coarse	Total	fine	coarse	difference
1	6.343	3.563	9.906	63.9	36.1	27.8
2	5.437	4.563	10 0.00	54.4	45.6	8.8
3	4.563	5.312	9.875	46.2	53.8	7.6
4	4.813	4.937	9.750	49.4	50.6	1.2
5	4.875	5.094	9.969	48.9	51.1	2.2
6	4.750	5.218	9.968	47.6	52.4	4.8
7	4.531	5.406	9.937	45.6	54.4	8.8
8	4.781	5.250	10 031	47.7	52.3	4.6
9	4.750	5.250	10.000	47.5	52.5	5.0
10	5.063	4.906	9.969	50.8	49.3	1.4
11	5.437	4.843	10.280	52.8	47.2	5.6
12	5.250	4.906	10.156	51.7	48.3	3.4
13	4.250	5.658	9.906	42.9	57.1	14.2
14	5.063	4.937	10 000	51.0	49.0	2.0
	69.906	69.841	139.747			97.4

Average difference = $\frac{97.4}{14}$ = 6,95

636

Notebook, N-02-05-24.1

Order ———

~~6 pairs~~ 1 gear from roller feeds on magnets at Mine.
Order # 65
9/27/02

2 dz. thumb tacks
1 pair bow pants
1 bow pencil

Stock lists from N.Y. Iron Dealers
Bement & Co.

For building Kiln —
6500 standard Fire Brick 9 x 4½ x 2½
110 bbl Vulcanite Portland Cement
30 yds Sand
73 yds broken stone ballast
4 bbls Fire Clay.
Order # 75

For top of Kiln — 38 pcs 22 ft long,
~~[illegible]~~ 3/4 Round Iron Rod ~~[illegible]~~
~~[illegible]~~ 50 pcs. 17 ft. long
300-1. nuts and bolt ends.
see P. 3 for end plates.

From N.J. + Pa Con. Wks.
2 - 1 7/16 Rigid pillow blocks for idler of hauling mechanism
2 - 2 7/16 Rigid pillow blocks for head pulley of same
2 - 1 7/16" take ups for tail sheave
300' 3/4" Wire Rope
~~1 Spur gear Pinion 3rd stem 120 teeth for hold shifter~~
~~1 Pinion Pin 4th stem 15 teeth for crank shaft of hauling mechanism~~

1 - 3 rope sheave for 3/4" Wire Rope 20" Diam - 2 7/16 bore - Keyseat 1/2 X 1/4" tapering 1/8" to the foot. Length of hub 6"

1 - 3 rope sheave for 3/4" wire Rope 20" Diam 1 7/16 bore 2 1/2" S.S. length hub. 6"

From N.J. + Pa. Con. Wks.
4 - Rope sheaves - 4th stem, P.5 - 7/4" Diam - for lifting ~~from~~ Kiln Doors.

1 - Rope sheave - 5th stem P.6 - 1 5/8" diam for tail sheave of hauling mechanism

2 - 1 7/16" Rigid pillow blocks for crank shaft of hauling mechanism ordered 1 7/16 from Nunn

8 plates 3/16" X 24" X 96" for end plates for Kiln cover.
or 200 ft. 3/16" X 7" girder plates.

Lumber for cement top of Kiln

Continued on P. 8

N. J. & Pa. Con. Wks.
1 spur gear - P.12 - 14th item 12 teeth
1 " " P.12 - 15th " 76 "
for driving reciprocating
conveyor.

Gleason Tool Co. Rochester
1 spur gear 1" pitch - 48" to
52" diam. - 12 to 2 1/2" face
2 7/16 bore - 1/2 x 1/4 key seat
[illegible] #50
1 pinion to match gear - 10 to
12 teeth - 1 7/16" bore - 2 - 3/8 SS
Cast Gears for Hauling Mechanism

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4 pcs. 2" x 1 1/2" Angle 3/16" thick for
rail spreaders in cement
floor.
8 S - 5/8" x 1 1/4" bolts
8 S - 5/8 heavy wrought Hardware
[illegible]

Fogment & Co.
200 ft 2" x 3/16" Angle
5 sheets #14 sheet iron 26" x 96"
[illegible]

Notebooks by Experimenters Other Than Edison
Group 4: Cement House

The thirty-four notebooks in this group cover the period July 1908-November 1910; one book has unrelated entries from 1937 regarding the dictation phonograph, or "Ediphone," business. The authors of the books are unidentified. Among the draftsmen who may have composed the books are J. Birkhahn, J. C. Hemphill, and H. B. Levinson. The experimenters involved in the cement house project include George E. Small and Henry J. Harms, Jr., mechanical engineers hired by Edison specifically for the project, and Robert A. Bachman, master machinist at the laboratory.

The one selected notebook, N-08-07-08, contains notes, probably by Harms or Small, regarding experiments on the pouring and stabilization of the concrete. The other books contain routine lists of patterns made for the numerous molds to be used in the production of poured concrete houses.

N-Number	Label on Spine or Front Cover

[additional information supplied by the editors appears in brackets]

Selected Books

08-07-08	"Notes on Tests Edison Concrete House 7/15/08"

Books Not Selected

08-00-00.4	"E.C.H. #1 18" Plates"
08-00-00.5	"24" Plates E.C.H. #1"
08-00-00.6	"Base Plates Stair Plates Special Plates E.C.H. #1"
08-07-15.1	"Pattern Numbers ..1-160"
08-07-15.2	---
08-07-15.3	"Wall plates Numerical order E.C.H. #1"
08-07-15.4	"Drawing Numbers E.C.H. #2"
08-07-15.5	"Y & W Sketches Jigs - Num. order"
08-08-10	"Pattern Numbers E.C.H. #2
08-09-03	"Mr. George Eldridge Small Record of Plates"
08-09-11	"No 2 House Patterns Sent to Fdy. & When Returned 1910"

08-10-07	"Plaster work Pattern numbers #2"
08-11-24.3	"X sketches Numerical order #2"
09-00-00.5	"List of Straight Plates #2"
09-00-00.6	"Wall Plates A–N Numerical Order E.C.H. #2"
09-00-00.7	"Wall plates O–Z E.C.H. #2 #2"
09-00-00.8	"12"–15" Plates E.C.H. #2"
09-00-00.9	"16"–24" Plates E.C.H. #2"
09-00-00.10	"18" Plates E.C.H. #2"
09-00-00.11	"Ceilings and Floors E.C.H. #2"
09-00-00.12	"Keys — Corners 4" and 6" plates"
09-00-00.13	"Stair plates #2 St"
09-00-00.14	"[Por]ch – , Floors, Roof, etc. Numerical order E.H. #2"
09-00-00.15	"Base plates. Specials #2
09-00-00.16	"Ornamental plates #2"
09-03-24.2	"Changes and Additions E.C.H. II #2"
09-05-25	"Castings"
09-06-01.2	"Castings #2"
09-06-02.1	"Pattern Numbers E.C.H. #2"; "void"
09-06-02.2	"Plaster Patterns #2"
09-08-20	"Pattern #2 Aug 20 1908"
10-00-00.3	"1910. Pattern. #. –A"
10-02-00	"1910 Drawings #. –B"

Notebook, N-08-07-08

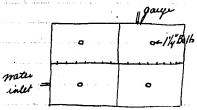
George E. Small J. H. Mann Jr.

Reports on tests

Edison Concrete House

Diary in back of book

#1 Pressure test for plates – July 8



Plates bolted together with large number of bolts (1½") sides closed with steel plates – at all joints 1/16" rubber packing

2 sides 1" apart.

Pressure (water) applied gradually and readings taken at center. The bolts (1½") did not stretch at all.

lbs pressure	Diff. at each side
5	7/32
10	4/32
15	5/32
20	6/32
25	8/32
30	10/32
35	12/32

Second time pressure 40 lbs – Some plates cracked near center {ribs only}

The ½" bolts were not fitted – and no dowelpins were used.

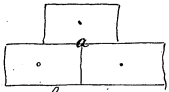
#2 Pressure test on July 11

Same plates, but rubber between plates taken out and oatmeal put on flanges. Dowelpins were put near ℄ of plates (at crossing-point)

Lbs pressure	Defl. each side	Final test max
5	1/16	1/32
10	3/32	4/32
15	9/64	10/64
20	9/64	12/64
25	13/64	16/64
30	17/64	20/64
35	25/64	26/64

Since some of the plates had cracked ribs, test not absolutely correct. —

#3 Pressure test on July 15



No dowelpins
no rubber, but
oatmeal used.

Old plates used. —
Defl. measured at a

Pressure.	Defl.	Defl. First test
5	1/32	1/32
10	1/16	3/32
15	3/32	4/32
20	7/64	12/64
25	1/8	1/4
30	9/32	10/32
35	11/64	26/64
40	3/16	
45	Cracked	

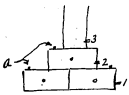
This test is not of much value – Mixing was not thoroughly watched – poor tar stuff, clay no good

Per pictures 1 – 2 and 3

Corners not filled. R.H. corner, pict 1 filled later, because ~~made~~ tub one bond off while pouring and rubbed the concrete with a rod.
Boards taken off after 60 hrs – Concrete fairly hard – smooth surface against plates
Plates taken away after 84 hrs – Stains shown on some places, but surface generally O.K.
The concrete in the column started away before concrete had set – so does not show on pictures.

#4 Pressure test on July 21

Side plates as shown – sides 1' apart
Sides closed with 2" plank
Column 8" x 8" inside – 40' high



Diaphragm gauges at points 1, 2, 3 & 4 (half height of column)

Concrete – 1 – 3 – 5 – regular clay
Gauge – 1 – practically no pressure
" 2 about 1 lb.
" 3 " 1 " when concrete reached in column – pumping up to 2½ lbs while pouring
" 4 – When concrete was above it, about 2 lbs – pumping to 3 lbs.

Concrete was hard mixed, properly not mixed well and not wet enough – flow not continuous – poured in by buckets full. Had small airholes at a – no tamping at all. – Concrete stuck to column, when column half full, repeated blows with hammer made it come down some – gauge 3 at that time pumping to 10 lbs –
Plates did not deflect at all.

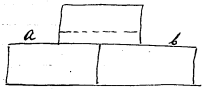
Material
Stone 3/4" and under
Sand - Coarse and fine - and gravel
Used Aug 20 and 1.03 .47 .89
for Wear 3.2 bags 11.3 cu ft 18.8 Cu ft.
not enough material

No pictures taken - test no good - wrong
faulty material

Corners not filled - abt 1" from top

#5 Test on July 30. -

Plates as before, but top open
Concrete machine mixed - Ransome #1
3 batches - very wet - mixed 3 min. each



Not filled in ac'l of insufficient material and loss out of mixer

At a board left off and put in place when filled - and after water flowed off.
At b 1 1/4" hole only with pipe - closed when filled

Top Plate and molten side removed after 24 hrs - Concrete not enough set
Block removed after 48 hrs - surface fairly good - at top layer formed abt 4" - no stone at all - see block saved -
found out later that clay used was not good and actually contained abt 1 5% clay -
Stone too big a size

1 - 2½ - 5½

Box was painted and greased, but concrete stuck to it — see picture #4 showing how bottom stuck to mould.

Picture #5 - block broken on Aug 5 - 3 P.M. — Mixture OK. - aggregate thoroughly mixed and voids well filled — stone close to surface - quantities correct

#6 Aug - 4

Block made 1 cu. ft. exact
Mixture for diagram Taylor & T
Sand 20 lbs
Stone ¼ & ⅛ lbs
1 - 2½ - 5½
Used Clay of bank - ground roughly
Mixed by hand
Clay was R. G. — about 5% sandy clay
Red Sand & Dust
Used 3¾ A — little fit for T

Mixer running fairly, bottom stuck - see picture #4 - box was painted & greased - surface not very good

*7. Test on Aug 7 - in Chemic room.
clay in ratio to cement — Quantities in oz.
Mixed about 54 cub inches at the time

*1 - 1 - 2½ - 5½ clay ⅕ water
8.5(+) - 17¾ - 46.5(+) - cl. 1¾ - water 18 oz

*2 - 1-3-5 - 8.5 : 21 : 42 : 1¾ : 15

*3 1-3-5. - 8.5 : 21 : 42 : 2⅛ : 16.
¼ clay - 1055

*4 - 1-4 no clay - 10 water
8¼ - 27.5

*5. 1-5. no clay - 8¼ - 33 (+) - 12¼

*6. 1-4 ⅒ clay 8¼ - 27.5 - 10

See blocks - marked with number in Room 31
Water added by judging appearance & flow.

Found out later, that for larger quantities water should be a little less.

Form removed of Ed #1 - on Aug 17 - 8.30 A.M. - Surface O.K. - very few little cracks - bottom perfect - Some of the outside layers stuck to form - Some of the corners stuck to box and some part broke - probably on account of leakage through joint - exploded moist around column after spraying surface with water. -

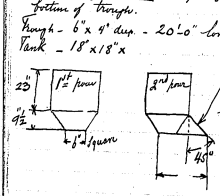
For strength test see page 12.

With the last pouring quite some water & cement was lost - making the concrete flow less easily

~~Pouring~~ In pict. #6 - Opening ~~up trough~~ mixing box - 26' 3'-6" from bottom of trough.

Trough - 6" x 4" deep - 20'-0" long

Tank - 18" x 18" x



Flow Test on Aug 10 - #8 and #9

1st Mixed 1 Ed. fuel - 1.3.5 - ¼

5.1 - 15.3 - 25.5 - 1.3 - 12.2 gals

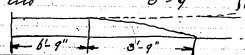
Pours - 8.30 P.M. .172 - .516 .860 cu ft

Mixed thoroughly - took less water than in laboratory test, since it appeared wet and ~~flowy~~ flowed easily. Filled column, dimens 6" x 6" x 4'-0" (inside) pumping heavily while pouring with standard pumpstick (#1) after 26' 36 min 26' 1½" water settled out -

2nd Mixed 3 Ed. fuel - same prop. - for arrangement of test see pict. #6

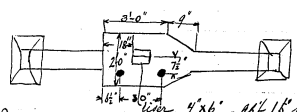
1st pour - grade of trough 3° - flowed clear to the end - completely filling trough without pumping. Put concrete back in mixing batch - mixed a little - cleaned tank & trough - placed trough level - poured again - concrete flowed well - but overflowed the sides - put concrete back again - covered trough on top and poured again - pumped in tank while pouring - first with pumpstick #1, then with old broom - the latter was more effective through of flow - total 10'-6" - (stone carried clear to the end of the flow.

tapering end 3'-9"

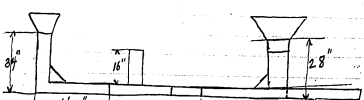


On test #10. — Same as pict. #7 except used large tanks as per pict. #6 on lefthand side.

Changed lefthand side and to finish column as shown on pict. #7 between tests 10 & 11 —



End columns - 4"x6" -



In 2 holes - #160 gauze - hole 3" dia.

Tops were clamped at 2 bottom - boards were old and dry and cracked while pouring, allowing some Concrete to flow out - this is clearly to be seen on pict #8 -

Tests 10 & 11 All hand-mixed

10 Flow test on Aug 13. — at 4 P.M.

For arrangement see picture #9

1st Mixed 2 cub. ft. in each box - 1-3-5-1855-3 used on left hand large molten tank (same as on picture #6) ; flow was perfect - 2 flows met at center and no trouble experienced in meeting. — Box not quite filled —

2nd Put Concrete back in boxes - added 1 cub foot of material to each side and added 3 qts Clay - mixture to each — This was done since some water was lost and the mixture seemed stand some more. Mixed thoroughly - at 4 P.M. gate simultaneously - flow O.K. - very thin completely filled and overflowing in 2 columns. pumping in each end column - with standard pump #2. —

11 Tops removed Aug 14 - 9. A.M. good surface - very few little nickles - under gauge perfect & piece test of all — especially near gauze — Concrete very good by appearance and fairly hard - Stone near surface & tops everywhere

Very little water settled out - at 5:30 all water was gone from top of 3 columns and 2 holes with gauze. Very little cement particles had sifted through gauze.

Picture taken before and after removing tops. —

For col. # 1. See page 8.

Forms of Col 2 - 3 & 4 removed on Aug 19 at same hour as pouring
All surfaces O.K - very few airholes - about corners same remark as for col. #1
Cut off 2 - pieces of each column - after marking off line with bold chisel and heavy hammer, made deep groove and after a few heavy blows, the column split pretty well exactly in the marked line
Squared top & bottom off to 6"x6" for test
Result of test see test # 15

Strength test on Aug 13. # 12

Column #2 - poured 4.50 P.M
1 - 3 - 3 - 6
.216 .648 .648 - 1055 - 3½
Mixed thoroughly by hand - placed fine - little water settled out.

Col. #3 - poured 5h 15m P.M
1 - 3 - 4 - 6
.192 .576 .768 - 1055 - 3
Same remarks -
Some more water settling out

Col. #4 - 1 - 4 - 4 - 6 - poured 5h 30m P.M.
.169 .676 .676 1055 - 3
Same remarks.
little water settling out. -

All Columns same dimensions as #1 -

All Columns placed out of the sun and top covered with tops & boards. -

#13 Aug 19

Tried Ransome mine — lost an absolute failure on account of miner. Cannot get the right degree of thinness — all the best material lost out of the discharging opening — —

#14. Compression test Aug 18. –

Used hydraulic press - plunger 2¾" dia - made test piece as accurate as possible - grinding the surface on emery - disc of necessary.

	Age -	Cracks -	Crushed -	{ lbs per sq. inch } -
1. –	8 days - in mould	132	218 lb.	Piece of column #1 - (bottom) sides of column sides bottom & top
2 -	11 days - air	288	288	Block #2 - test #7
3 -	"	390	845	" #6 "
4 -	"	150	775	" #4 "
5 -	5 days	198	265	piece of R, of test 11 pict. #8

#1 - partly damaged or cracked when test piece was cut from column. –

Press registers in tons –
To find press. per sq in $\frac{\text{gauge press} \times 2000}{\text{area of block}}$.

#15 Compressive Test Aug. 19

Used hydraulic press in storage battery plant. plunger 5" dia

	Age	Lbs per sq. inch Cracked	Lbs per sq. inch Crushed	
1	6 days in mould	194	334	piece of col #2
2	6 "	334	334	" " " #3
3	6 "	208	250	" " " #4
	Press in laboratory			
1	6	302	302	pc of col. #2
2	6	254	254	" 3
3	6	218	218	" 4

#16 Aug. 27
Laboratory Jun.

N.				
1.	6 + 11	206	255	Bot #1
2	6 + 8	330	357	#2
3	"	316	316	#3
4	"	204	248	#4
5	8 + 14	246	246	L4 of tel 11

17 Sept 1 4-5 P.M.

Used cube-hand-mixer. Very satisfactory except pulp which had charged. Fried mix a little V.

all 3"

Poured	6x6x6	cubes			b-3	
1	1-3-3	.113	.339	.339	8½	6¼
2	1-3-4	.1	.3	.4	7½	6.25
3	1-2-3	.133	.266	.399	10	6.25
4	1-3-2	.129	.387	.258	9½	6.25

Revelled tyn next morning - Considerable H

Cured stand more A

16

#18 Expt. 3

Determined S_4 of different mixtures

ϕ A.

$3\frac{3}{4}$

#19 Tests on Sept 4th. — A - 3

Mixed 1-3-3 with cube for column and ornament #1 - cub. cont 1229 cub. in - made for 1300 Found 2-5 P.M. Pumped 4.83 gal .48 cub ft & st - 9 Q 11 st. Specimen turned dry - this was also noted in test #17 and test 12 - Cf. #2 - This spec. mixture can stand more water. Box was not made according directions. The ornamental side was ordered thus and was made

Poured 16 testcubes - as follows — {#. of each}

#5	1-3-3	3.35	.339	.334	7	3.10 P.M.	{for dry}
#6	1-3-4	2.98	.3	.4	8½	3.35	
#7	1-2-3	3.46	.266	.399	8½	4.5	
#8	1-3-2	3.83	.387	.258	8	4.35	{for dry}

all C - 3

Opened on column #1 on Sept 8 - on account of faulty construction of mould, tip shoved back a little when loosening screws - a few corners & points broke - ornamental side had some blowholes - other sides smooth - mixture was too dry. 4 p. print. #13

All cubes 6" × 6" × 6"

Press. per sq. inch = $\frac{87.4 \times P}{36}$ = 2.43 P.

P = Atm. pressure

#20 Sept. 8

Cubes of test 17
all 6"/4 + 0

121 117 ~~214~~ 133	~~149~~ 124	224 206 243 238	228	#1
224 182 170 ~~97~~	~~168~~ 192	238 218 182 182	205 188	#2
~~214~~ ~~158~~ ~~85~~ ~~158~~	~~154~~ 1	214 194 170 ~~158~~	~~184~~ 193	#3
~~308~~ ~~267~~ ~~243~~ ~~243~~	~~265~~	308 267 243 255	268	#4

#21 - Sept 10.

#28. Tested Cubes #5. 6. 7 & 8 for Compression (of test #19)
All Stand. Cubes - hydr. press in Lab. used -
Age - 6 days. -

2
a
a

Cracked	Crushed	Average Cracked	Average Crushed	Remarks
158	243			
230	255			
~~255~~	255	208	251	Cube #5 - test #19
230	250			
~~144~~	194			
182	194	~~173~~	194	Cube #6 "
~~144~~	194	152		
122	194			
206	273			
~~273~~	273	~~244~~	275	Cube #7 "
243	280	235		
255	273			
~~146~~	146			
~~122~~	158	~~134~~	161	Cube #8 "
~~170~~	182	~~109~~		
~~97~~	158			

Opened column (ornamented) #2 - Age 3 days - surface OK - very few little blisters - in some places inner stuck to mould - { did not oil mould before pouring } - as a whole, ornamental work came out good - See picture - Concrete fairly hard and corners good & sharp.
See picture No. 11 & 12
left hand column

The last cube of each, marked Q - not pumped

The first cube of each, marked A. not pumped

#32 September 11th

Mixed 1-3-3 with cubes mixed for column with ornament #2 column contained 612 cubes - mixed for 700.
Poured 2 P.M. pumped. flow fine.
3.6 Qs .261 Sp. 5.7 Qs. 7½
6 - 3½

Poured 32 testers as follows (4 of each)
16 - cubes - #5, 6, 7, 8 all 1-3-3 3.5
~~Ag pumped~~ ~~pumped~~ 3.3 Qs - .339 Sp. Pl - 7¼ Qs
#5 - b - 7½ - 2-30 P.M - flow O.K.
#6 - c - 6½ - 2-45 " "
#7 - d - 6 - 3-05 " " - little too wet
#8 - e - 5 - 3-25 " " too wet
mix #8 - stone was not carried to top as well - pumped
On account of lack of clay - shrinkage excessive

16 - cubes - #9-10-11-12 all 1-3-2 3½
3.83 Qs - .387 .258 1¼ Qs
#12 - b - 8½ - 3-50 P.M - very dry - flow not O.K.
#11 - c - 7 - 4-10 " dry flow better
#10 - d - 6½ - 4-35 " - Ag. h. little water - flow OK
#9 - e - 5½ - 4-55 " "
Stone thoroughly well carried in all these.

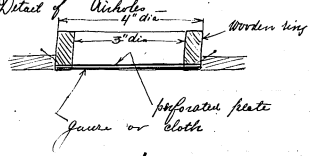
#28 Sept. 16

Pound Mn. Ext. #3 - same as #2, but without pumping - mined vlet

Opened Sept 17 - 10th A.M. - All belief stands but fine - a few blebs in belief and sides - but in general very satisfactory - smooth surface. -

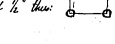
3p. See picture # 11 & 12
Left hand Column

Detail of Nicholes –



Perforated plate # 1
holes – 1/8" dia – 3/16 ⊥ thus

Perforated plate # 2
1/16" Sheet-iron
holes – 1/4" dia – spaced 1/2" thus



See fig. # 14 for general arrangement
and fig # 16 – showing trimer & blades

24 September 15th

Mixed 1-3-3 with Ransome mixer for flow test b-ce
Poured at 11.30 A.M. [redacted] – b – 3½
Mixture 1.3 – 3.9 – 3.9 21 G 7½
Mixer works O.K. – dumps quick, spills only very little and mixes thoroughly
Flow perfect – stone well distributed
Arrangement of box, etc same as for test #11 – except for central part. The box of this was provided with 9 holes with gauze and no riser. See picture # 9 & 10

Hole #1 – #100 gauze – perf. plate #2		B
" #2 – Triple muslin "		A
" #3 – triple Cheese-cloth "		A
#4 – Single " "		B
5 – #40 gauze "		B
6 – #120 " "		B
7 – Double Chees-cloth "		B
8 – " " – perf. plate #1		A
9 – #80 gauze – perf. plate #2		B

All marked O.K. – the 3 marked A did not let any cement through at all – Opened box at 2 P.M. – surface fairly well – quite some nicholes – riser seems to be necessary – stone everywhere present –

#25 Sept - 17

Tested Aches of test 22 - with hydr. press in Lab.

Age - 6 days

Bar.	Cracked	Crushed	Average Cracked	Average Crushed	Bar.	Cracked	Crushed	Average Cracked	Average Crushed
5	172½	189			9	~~167~~	262		
5	158	170			9	255	255		
5	170	182	172	185	9	262	262	~~266~~	268
5a	188	199			9a	284	292		
6	164	182			10	~~150~~	255		
6	154½	182			10	201	248		
6	170	182	159	182	10	230	255	~~235~~ 229	259½
6a	158	182			10a	255	280		
7	121	145½			11	187	236		
7	145½	158			11	212	238		
7	152	152	150	163	11	238	250	218	245
7a	182	194			11a	236	255		
8	194	206			12	206	243		
8	189	206	~~196~~	206	12	~~267~~	267	~~231~~	253
8	194	206	159		12	~~246~~	246	206	
8a	~~206~~	206			12a	206	255		

#26 Sept 18. –

Poured ovn. Col. #4 – 1-3-2 C – 3½
2.96 .1 .3 .2 5½ 5.7
Flow Albright – could stand some more
water time 2-50 P.M

Poured 16 tiotesches –
all 1 – 3 – 4 – [redacted] 3

#1 – B – 7½ – 3-15 P.M – flow OK

2 – G – 6½ – 3-35 " "

3 – D – 5¾ – 3-55 " "

4 – C – 5 – 4-05 " "

Poured first one of each in A – not pumped.

Levelled off tops on Sat. P.M. 9 O'cl – Sept. 19

Opened Col. #4 Sept. 21 – 9. A.M. – About half of the iotaf mtl. stuck to mould – towards side head jaw surface – mould had been oiled slightly before pouring. piet. #13

#27 Sept. 21 A.M.

Made flowtest at 2-30. Had the top of Centre box changed — no gauge, but tier 4" x 4" in Center. Had reinforcement placed as shown on sketch. # — Used Sonkes.

1-3-3-[redacted]d 3½ 1.51 .4.53 .4.53 .5½ 9

Made 7 Ce[redacted] — had some water on account of small hole in mixer. Flow O.K. — reinforcement did not seem to hinder much — opened tops at 3-35 and molded concrete to save time — — Some few pockets here in tops and some water — might have to use a few holes with gauge to take care of water.

Poured cm. col. #5 — Same as #4. 3½

1-3-2-[redacted]e 2.98 .3 .2 5½ 6[redacted]

Flow OKa —

Opened column Sept 24 — A.M. —

surfaces all very good — relief work nearly perfect — only in a very few places little chunks stuck to mould. —

Pit #13

*28 Sept - 23.

Made flowtest at 2-30. - Had reinforcement - same as test 27 - and had riser and 4 gauge - holes {see sketch}
1 - 3 - 3 8 - 3½ 1.51 4.58 4.53 7½
Made 7 cu. feet - Flow OK - but had considerable in account of loose board in bottom of one of pouring - risers. - After pouring ~~least~~ stopped concrete in with riser. Flow was fine - and not pumped at all - Water came through gauge and concrete came up through in riser.

Opened test 24 - A.M. - Surface OK - few airholes -

#29 Sept - 24

Tested Cubes of test 26 - Age 6 days

Box			Average		Remarks	Pounds	Pounds	Wgt
1	206	243			Pier of Column #1			
1	238	262			" #2			
1	~~180~~	300	~~244~~	261	" #3			
1a	~~258~~	238	222		" #4			
2	190	214						
2	190	214						
2	~~186~~	206	~~198~~	210				
2a	~~206~~	206	190					
3	138	250						
3	230	262						
3	268	280	~~246~~	260½				
3c	230	258	243					
4	~~73~~	~~194~~						
4	226	238	~~186~~	~~232~~				
4	226	226	223	231				
4a	218	230						
						426	486	6+29
						547	559	6+36
						~~[illegible]~~	595	6+36
						~~[illegible]~~	432	6+36

*30 Sept. 25

Poured monolithic #1
1 - 3 - 2 - l [redacted] - 3/4
2.98 . 3 . 2 5/4 [redacted]

Flow perfect - little pumping done -

Opened Sept 28 - Surface not perfectly smooth but absolutely no holes -
Draw 0-46.

picture # 13

Opened Oct. 5 - 9 A.M

pouring end - -	Surface good	Natural
1	good	
2	medium	Sulph. hydr.
3	good	lime
4	good	polished
5	good	Sulph. Amm.
6	No "	Sulph. pot.
7	"	Yellow
8	"	Graphite
9	rotten	Albany grease
10	"	Kerosene "
11	"	Machine oil
12	medium	Vaseline
tiller end	good	

The smooth outside film of the surface seems to adhere to the copper and make the knobs look granulated. This granulation the finest, i.e. least visible, where marked good. Pure places also least disfigured with knobs - only very small ones, hardly noticeable.

Unit #19

#31 Sept. 29th 3 PM.

Poured waterglass #2
1 - 3 - 3 [redacted] 3½ 700 #s of mix.
2.6 .261 .261 7½ [redacted]
The flow was O.K.
Used same box as #1 but had surface of copper treated as follows.

	12	11	10	9	8	7	6	5	4	3	2	1	

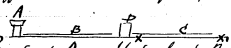
#1 Natural rubbed with clean waste.
#2 Sulphurated hydrogen not rubbed.
#3 White wash wiped slightly " "
#4 Polished lightly - vaseline applied then cleaned off
#5 Sulphite of Amm. rubbed.
#6 " " Pot " "
#7 Tallow " as possible down as much
#8 Graphite (dry) polished " " " "
#9 Albany grease " " " "
#10 Kerosene oil " " " "
#11 Machine " " " "
#12 Vaseline " " " "
The sides of the box were oiled well. Clay film was left on surface at #1 + #2 in small sections - this clay was used as dams when applying sulph. hyd.

Oct. 6 –

Form moved off – stuck a little first, but by hammering with a monkey-wrench on the back – got it loose – Float moved around on, to concrete up at bottom surface perfect – all toolmarks (from planing tool) in surface – and perfectly smooth – pict # 13

#32 Sept 30. –

Poured in channel – Beam #1 tapered size planed – ends closed – top open placed boards on top and kept on by standing on them while pouring – took boards off about 1½ hrs after pouring –



Poured at A. Had board B on alone, let concrete spread – put on board C – pitching against B, till concrete had filled beam. Placed rise D between boards – concrete rose in D – pumped a little in A after pouring – Surface dry w/ when boards were removed – worst at B – end of beam (corners) furthest from rise the test (marks X)

1 – 3 – 3 – [redacted] 3½ – [redacted] 300 cc

2.98 .3 7½ 6.5 11-18 P.M.

Channel – 7'-6" – deep 1½" – wide (inc) 5⅞" at top

Levelled top of Bed of frame – after lime setting with hammer the frame, water marked out and rose etc to make a perfectly smooth surface

#38 Oct. 3

Poured Cornice #1 – 2400 on 1-3-3-6 3½
.3 .9 .9 7½ .19 9-45 AM NP
F perfect – Could have been a little less A –
H quite some.

Opened Pd 9 – Ornamental work – mostly all O.K.
except at bottom – this caused on account of
too much a space between blocks – surface
at by flat space N.G. – other surfaces
perfect – noticed any holes. — fil. #20
See fil #22 – the mould for the cornice –
showing the recess dentals, which broke off
in cornice #1. –

Opened beam Oct 12 – Surface rotten all stuck to beam surface and very hard to get moved off concrete – must probably EC_3 – No difference between ends of beam

Opened waterable – not very good – less H than before – but still same – between pauses most – smoothness of surface filmy stuck to copper at both ends – Trial #19

#34 Oct 6

3-25 P.M.

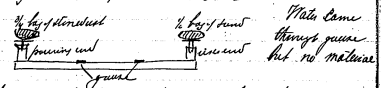
Poured beam #2 – Had one half of channel painted with a very thin lime-wash. Had boards, same as for test 32, but clamped on. –

1-3-3-[redacted] – 3½ 800 cu 2.98 .3 – 5 – 6.5

Poured waterable #3 4 P.M.

1-3-3-[redacted] – 3½ 800 cu 2.98 – .3 – 7½ – 6.5

Cleaned surface thoroughly with Potash 33% – then with sand & water. Use with benzole. Gave half of surface coat of whitewash – extremely thin – just noticeable – Had 2 holes made with #40 gauze and, after pouring, put block in side to pouring riser – just fitting in them – see sketch –



Water came through gauze but no material

Opened, that at riser end, some settlement occurred in first half hour (about 1/16") – none at other end – but on that time water in gauze – holes came up a little bit –

#35 Oct 7 - P.M.

Pours in typwrita - lova (japanned) -
1 - 3 - 5 - 8 - 8½ - N.

36. Oct. 8. 4. P.M.

~~B~~ 36 - Cubes 1 - 3 - 5 - 3½
24 of B for different age test - order
First mix 2700 cc - too much A by mistake
Added 1/10 of all aggregates, mixed same time again -
not thoroughly mixed - mixed 2 m. longer -
O.K. but T - observed quite some H next day
Levelled off top next morning
Twice .27 .81 1.35 6 21¾
4 of each of the following mix 2.7 .27 .45 7½
c - 5½
d - 5
e - 4¾
Seemingly all a little T -

Opened beam Oct 17 - A.M.
All stuck to beam - best surface on parts oiled with brush - next the ones oiled and rubbed dry - while the untreated parts were rotten.

Opened waterstable - surface not much good but best, where lower was oiled with brush next - where oil was applied and rubbed dry again - The first part (oiled with brush) did not stick at all, but was swelling. The film (outer surface) stuck to lower where untreated, less to oiled and rubbed and not at all where oiled with brush.
H much less as before
S_2 well distributed throughout.

Oct. 19 -

#37 Oct 12 - P.M

Poured in beam - divided in 10 partitions. Each half partition oiled - every other one rubbed dry again - the other applied as thin as possible with a brush. No G in mix but timed differently at first: 1 m - each, up to 10 m - Between each mix 1 m - Mix a little T - H most with first 3 partitions. Seemingly after 3 m - S_2 supported better. Had material for 1600 cu (beam & waterstable) - when pouring last partition - poured waterstable also - Had some one Enterviser, (between 2 pours) - 1/6 of beam cleaned and rubbed - 1/3 same - Then oiled & rubbed dry - 1/6 - same - oiled as thin as possible - F was O.K. - S_2 supported O - A - seemingly O - when poured - applied pressure in 2 risers, Ua in end - riser - and Ua in pouring riser - Gauges seem to take good care of A
331 - 3 1/2 - no L
Tested Cubes #1 - test #36 - 4 p

85		97		
~~84.3~~	~~68~~ -	~~65.8~~	~~89~~	b
60.8	69	109.2	99.5	
60.8		92.2		

#38 Oct 13

Opened typewriter cover – came out very easily – surface absolutely perfect – very smooth and "polished look" – fitted #17 & 18

Tested Cutter #2 at 5 P.M. – 5 p.

~~117~~		121.5		
73	~~93~~	121.5	120	C
~~85~~	~~85~~	121.5		
91		117		

#39 Oct 14

Testes each 3 - 10 - 11 - 12 of tel 36. all. 6p.

#3 - b -	138.5	122.5	148	134
	116.5		126	
	126		141	
	109		121.5	
#10 - c -	~~103~~	~~[illegible]~~	~~123~~	~~[illegible]~~
	97	103	126	125
	109		124	
	~~85~~		~~124~~	
#11 - d -	133.5	117	146	129.5
	121.5		129	
	104.5		121.5	
	109		121.5	
#12 - e -	103	107	116.5	~~118~~ 124
	92.5		~~[illegible]~~	
	127.5		133.5	
	104.5		121.5	

Opened after 6 days - most few mm stuck to mould - fact. # 13

Opened 4 days - to fact. # 20 - Had the deep hole between dentals filled and used resin on (mark clearly seen in picture)

#40 Oct 15

Poured orn. column #6 - Had copper paramed. Surface of copper fairly met - a few spots where paramming did not cover it - (Hartlets)
331 - 6 - 3½ - 800 cc. - 3 n
Emulsion O - F also O - NP -
Next morning top mm quite hard already

Poured 20 cubes - for age - test
431 - 6 - 3 - 3 n.
Might stand some more A - Not much H - Need optimum (24 ?) tom rather hard to lift off next morning.

Poured revised cornice #2 2400 cc
331 - 6 - 3½ - 4 n.

Tested cubes #4 - 6. - 7 f. - test #36

109		170	
97	112	~~133.5~~	~~160~~
109		170	177
133.5		182	

Filled 2 boxes with rest of cornice mix -

#41 Oct - 14 - 15 x 16

Determined S.G. of LA and found curve giving constants for each quantity A

#1/2 Oct 16—

Tests Cubes #5 — b — 8 f — bed 36

133.5	144	194	182
146		182	
146		190	
150.5		182	

0/3

Oct 17

Tested Bulb #6 – 6 – 8¾ p – tied 36

158		190	
134	153¼	~~158~~	~~178½~~
158		~~182~~	190
163		190	

#44 Oct 19

Tested Acker #9 (2) & #3 11 p & 4 p Tel 36 & 40

194 } 164 214 } 226
134 238

~~134~~ } ~~107~~ 165 } ~~147~~
61 73 ~~122~~ 155
85 134
~~146~~ 165

#45 Oct 20

Tested cubes #13 - test 40 - 5p.

146		195	
134	149	~~128~~	~~128~~
~~148~~		185	192
158		195	

#46 Oct 22

Tested 4 cubes of test 40 p/p.

194		~~202~~	
214	~~197~~	218	~~207~~
~~165~~	203	~~190~~	218
202		218	

Poured 36 cubes – time to L test
321 3
24 of b – 4 of each c, d & e
could have some more A – not much H.
Levelled top next morning & made smooth surface with neat cement paste
Tops very hard. –

2 cubes filled – one ½ b – ½ c mix
one ½ d ½ e "
will spur 6 p – and 10 on for long time

#47 Oct 23

Fences & Cisterns of lot 40 8p.

~~109~~		255	
218	~~142~~	262	257
218	220	255	
224		255	

#48 Oct 24

Tertia 4 cubes 1 lect 40 8¾/p

288		250	
~~#9~~	~~243~~	296	261
224	231	248	
231		248	

249 Oct 26

Poured 23 cubes for time
331 6 3½
one box for H- measure

Tested 4 cubes of test 46. & 2 of 40
4p 11p

219 } 243
267 }

292 } 286
280 }

~~336~~
316 } ~~326~~ 322
328 }
323 }

340
362 } 352
352 }
352 }

Next morning cubes leveled off with
neat cement — latter kept with 1-1 mortar

50 Oct 27

Recd 4 cubes of tea 46 – 5p

340	340	443	~~440~~
340		389	
340		~~344~~	444
340		400	

51 Oct 28

Tests 16 ewes of lot 46 — 6 p.

b	450 462 425 473	453	490 523 478 552	511	ewes c 105-175
c	all 450		505 ~~479~~ 466 466	~~479~~ 482	
d	437 420 486 442	446	462 445 510 473	473	
e	418 430 405 383	410	~~432~~ 442 445 ~~405~~	~~437~~ 444	

Opened Cornice Nov-2 - 3¾ p -
surface O - some parts broke off - properly slightly
indented - and would heavy to handle -
few small Airholes - piet. #20

Opened Mantelpiece Nov-2 3¾ p.
surface O - but the greater part of the deeper
ornament stuck to mould and broke off -
No Airholes - piet. #19

#52 Oct 29 -

Poured 22 cubes for B test
231 a 3½
Could stand more A
Levelled boxes directly with plastering trowel
next morning filled over and levelled
with Cement mortar 1-1

Poured Cornice 13 - Japanned - No water steps with flat hand
231 a 3½
After filling moved designed large stone on
contacts - and had to press this stone down -
to get it under the emulsion

Poured mantelpiece #5 Japanned - on end
321 b 3
Can have more A. - after pouring -
P - about 1'-0" deep - feel impulse at bottom
poured mantelpiece on end. - No pieces acts
perfect - lets A act only.

Tester 4 cubes of test 46 4 p.

469	469#	535	~~564~~
473		620	
450		~~505~~	567
476		546	

#53 Oct 30

Series 4 cubes of test 46 8 p
and 4 of test 49 4 p.

523	537	620	610
558		627	
497		583	
570		608	

133	~~143~~ 133	146	158
~~146~~		146	
~~158~~		170	
133		170	

#54 Oct 31

Series 4 of test 46 9 p
4 " 49 5 p.

Average C
$9\frac{3}{4}$ r-76 s

~~486~~	~~583~~	~~583~~	~~590~~ 620
~~523~~		~~583~~	
~~512~~		~~545~~	
558		620	

158	155	~~170~~	~~177~~	183
146		~~76~~	177	
170		~~76~~	190	
146		~~76~~		

Opened Cornice Nov. 10th - 8 p - surface very nicely finished - 1 or 2 small holes & moulds came off very easily - removing, supported moved on 4 corners, and tipped slightly and let concrete drop off - one place damaged - see picture 21

Opened Column same time - surface not had but greater part of fine work stuck to moulds see picture # 21

#55 Nov. 2

Poured Cornice #4 - plain
321 6 3 P
can stand more A.

Poured rotatable Orn. column #7
321 6 3 P
can stand more A.

Tested 24 cubes of test 46 11 p
Cracking — Average C
not noticeable — ~~[illegible]~~ 653 } ~~[illegible]~~ 635 — 4/5 r - 175

4 cubes of test 49 7 p

208
218 } 208
202
202

218
220 } 222
224
218

4 cubes of test 52

all 85
Cracking not noticeable - dry soft - started to give almost directly

#56 Nov 3

Tees 4 cubes - lot 49 - 8p

~~216~~		243	
214	216	243	237
218		231	
~~216~~		231	

And 4 - of lot 52 - 5p.

43		97	
78	76	102	95
68		85	
85		97	

#57 Nov. 4

Tees 4 - of lot 49 9p.

~~206~~		248	
~~144~~	~~213~~	243	247
231	225	255	
219		~~243~~	

Average C - 12½ ft - 16s

Rivetted brow off Nov 6 - with Cement mortar
1 - 1½ it took .134 cufl. of cement.

#58 Nov. 5

Poured 37 cubes - B & L - A.M
631 3
25 of 6 - 4 of each c, d, e.
one frieze with c, d and e for Lay B
Mixing for field 8 - found out that 3 h
mos. not enough B - stone not deposited - gave
it 6 h - and everything was O. - A. turned O

In afternoon finished plaster paris cornice on
foreman moved - to determine of
mould moved down - and after about 30 min
setting took moved off with little trouble
fed 2 flasks of mor under iron moved
(plaster at bottom) and tapped lightly -
flasks cast dropped down - and cast was
perfect. —

Tested 4 cubes of test ~~46~~ 52 - 7/p.

194		206	
165	178	206	~~207~~
182		~~170~~ 208	
170		214	

N² 159 Nov 6

Tested 6 cubes – 4 of test 52 – 8 p.
2 " 49 – 11 p.

267
275 } 271.

286
292 } 289

230
231
243
243 } 237.

~~264~~
~~284~~ } ~~281~~
304
304 } 304

160 Nov 7th

Tested 4 cubes of test 52 – 9 p

344
352
340
340 } ~~344~~

352
352
352
352 } 352

#61 Nov 9th

Tested 6 cubes - 4 of test 58 - 4p
2 " " 52 - 11p

Amer. C. 6⅛ r. 175	95 97 92 97	95	109 117 102 121.5	112.3

	328 328	328	369 ~~345~~	~~345~~ 369

#62 Nov - 10th 10.39

Tested 4 - of test 58 .. 5p

	121 99 116 116	113	55 ~~70~~ 53 53	~~140~~ 130

+63 Nov. 11

Tests 16 each of Tel 58 bf

b.	126			175		
	126	130		165	164	
	134			165		
	134			151		
c	122			150		
	109	122		~~153~~	~~##~~	
	133			158	154	
	122			~~153~~		
d	126			150		
	109	127		150	153	
	~~137~~			133	~~##~~	
	146			158		
e	121			153		
	122	~~##~~		141	~~##~~	
	~~107~~	121		~~153~~	150	
	121			158		

In test 65 in each H Cutter had one plate 1 and one G. - When piling - all the G came out perfect - none of the I - Concrete stuck to surface - primarily new iron B.

#64 Nov 12

Tested 4 of #58 1/8

158	157	182	186
153		182	
153		192	
165		189	

Nov - 12

#65 - Poured 28 cubes for A test

421 6 Used for first 8 - the newstone, but the lime was much larger than our old stock, so poured same 8 over mid old stock. For F - 3/8 was test - no piling and looked O.

Nov - 13

#66 - Tested 4 of #58 3/8

L	~~187~~	~~204~~
—	204	192
—	~~177~~	
—	~~187~~	

Opened Cornices on Nov - 19 - and took pictures that same day. — Both came out badly, but result very unsatisfactory — Greater part stuck to moved — most probably not enough dried — the #5 especially very bad — see pictures # 22

#67 Nov 13

Opened 12 more cubes - same as test 65 $3\frac{7}{8}$ for mixts A — S_2 not supported enough — more in last part of force than in first — limit (safe) - $3\frac{7}{8}$ or $3\frac{1}{2}$ Same mix as for 65

Opened Cornice #5 - G and #6 - I

421 -6 $3\frac{3}{4}$

#5 - N° #6 - P mix hands

Nov. 14

#68 - Tested 4 of #58 9 p.

146	16 #	199	201
182		209	
158		194	
170		202	

#69 Nov. 16.

Tested 2 - of #58 11 p

158	170	243	240
182		238	

Opened orn. col #8 Nov. 28 surface Q for all raised work while the rest was good and smooth.

#70. Nov. 17

Poured probetable #6
421 6 3 3/8 - M - F was J
and consistency of emulsion fine

also Orn. col. #8
Same remarks. —

#71 Nov - 18.
Tested cubes of test #65

VIII new	198, 218, 194, 206	204	VIII old	243, 228, 226, 214	228
3 1/4 r. 17s			8 3/8 r. 17s		
IX new	170, 178, 165, 170	166	IX old - all 194		
4 1/4 r. 17s			5 1/4 r. 17s		
X old	210, 214, 206, 206	210	XI old	204, 194, 198, 212	202
6 1/8 r. 17s			4 1/4 r. 17s		
XII old	206, 218, 214, 224	216			
5 1/2 r. 17s					

Varnish

Plate	Varnish used	Kind of varnish used	Surface	Remarks
1 -	rough	Morris's varnish	poor	Hard to get off.
2 -	"	Asphaltum	"	"
3 -	"	Morris's varnish	"	"
4 -	"	white paint	part of surf. fairly good	"
5 -	"	Valentine's gum paint	fairly good, but	not satisfactory of surface. Hard to peel - hard to get off
6 -	"	Black Japolin	N.G.	hard to get off
7 -	"	Morris's varnish	"	"
8 -	"	Devoe's high gloss	good - not perfect	"
9 -	"	Mooney's black varnish	"	Easy to get off - dry remark in for 5
10 -	"	Varnish brush paint	"	" - Dull surface
11 -	"	Mooney's black varnish	"	hard to get off
12 -	"	Japolin	"	"
13 -	finished	Japanese. 2X	fair, well	"
14 -	"	" Onlo	N.G.	"
15 -	"	" -2X - [illegible]	"	"
16 -	rough	plain	poor	"

9 and 10 were the only ones, that fell off and 10 was very good - the surface is dull, but perfect and so is 9 - although the collection sticks to paint.

Opened #8 - Nov. 23 - surface OK - fail looked which like fail 22 - #6 - part of leg and dental sticks. ——

Opened last test on Nov 24 - and took picture — see report above

#12 Nov. 19

Tested cube of test 6 f

XIII			XIV		
15 f r - 165	134, 153, 136, 134	139	15 f r - 165	165, 158, 175	166
XV			XVI		
6 f r - 165	102, 112, 102	105	6 f r - 165	90, 97, 97, 97	95

#13 Nov. 20. —

Poured 16 cubes for L test. — 421 - XIV - 4p b, c, d and f. — only b satisfactory - the rest required 6 m - to get a good emulsion and even then was not J and turned T

Poured Carrier #7 - I - 421 - XIV - b - M and #8 - G - same - but poured face down and surface first bowled and was S mixed with b - L - A - then P. - On Nov 21 - took by sympathetic carrier and gave back a bubbly finish. -

Poured boxes for surface test - with plates and different paints. - 421 - 6 - XIV

#74. Nov 23

Found 21 cubes for B test
ill 421 – 6 – XIII

#75 Nov 27

Tested 16 cubes of ind 73 and 4 of #74

b 219, 197, 214, 283 } 219 c 214, 231, 206, 197 } 211

d 238, 288, 291, 252 } 255 e 231, 231, 219, 262 } 255

All – 8 4/p.

187, 176, 190, 182 } 182 – 4 p.

#76 Nov 28.

Tested 4 cubes of ~~test~~ #74

b 226, 236, 226, 221 } 229 3/4 5 p.

Plate		Opened Dec 4		
2	Rough	13	Q - U	
6	"	14	V - U	
9	"	7	J - Same number as before -	Z
10	"	25	J - W - perfect	Z
11	Finished	11	Partly J - center of plate Q - when J.	X
12	Rough	4	Q	
16	Upper Rough	25	Q	
20	Finished	16	Q	
22	Rough	10	V -	
23	"	10	Q	
24	Upper	10	Q	

#77 Nov 30

Dated 4 cubes of test #74

8 ~~305~~ 294 } 294 7 p.
287
280 } 284

Opened corner #7 of test #73
Surface Q suppose by on account of putting A on before pouring the concrete in the mould

Poured boxes for surface test with plates having different paint
421 - 6 - XIII

#78 Dec 1

Tested 4 cubes of test #74 8 p

~~286~~
292
296 } 294
~~288~~

Pressed of bed L 80

Plate	Side	Treatment	Remarks
1	G^2	6	Q - U
4	"	2	V - X - Some parts stuck - U
5	"	9	Q - U
8	"	8	J - W
13	G	21	V - W - X - Some parts stuck - surface broke/pressure - not nice
17	"	12	Q
3	G^2	19	Q
14	"	18	Q
18	"	15	Q ~~V - X - W~~ - outer film stuck
19	"	17	Q
21	"	20	V - X - W - outer film stuck
7	"	5	J - W - bed of all

Pressed of #81 - opened Dec 10 -

Plate	Side	Treatment	Result
23	G^2	30	Q
15	"	23	Q
22	"	34	Q
24	"	31	V - U - 31 came off
11	"	22	Q
8	"	8	almost J - U
7	"	5	V - U
20	"	11	J - W
16	"	24	J - W
9	"	33	J - W

2 - G^2 - 26 - J - W
12 - G^2 - 25 - J - W

#79 Dec 2

4 Cubes of #74 9 p

267
372 } 322
287
360

#80 Dec 4

2 of #74 11 p

301
304 } $307\frac{1}{2}$

Found bones with plates for surface
421 - 6 - VI
Opened Dec 7 -

Dec 7

#81 -
Found bones with plates for surface
421 - C - IX. Plate #8 & 7 of bed 70 used over again without drying.

Found waterstable (blue) #1 & #2 - Facedown
#1 - surface beaten with 25 - ruffled off
#2 - G^2 - Both A^2 - C - IX - M
Opened Dec 10 - not side off Dec 8
#1 - perfect - W - a few blisters - emulsion V } pied #24
#2 - U - most of Bacteria stuck to mucid

Plated of plate test - opened Dec 14

~~face down~~ No. -			Remarks	
2	G^2	26	J - W - few L_2	Return Bad.
3	G^1	38	Z^1 - W - Z^5	
4	"	28	Q - U - poorly J - Z^5	
5	"	36	"	"
6	G^2	14	V - U - Z^3	
9	"	33	J - W - Z^5 - Z^2	Return
10	G^1	27	Q - U	
12	G^2	25	J - W - Z^2	Return
13	"	12	Q - U	
16	"	24	~~W~~ - J - W -	Return
17	"	21	J - W - Z_4	
19	G^1	29	Q - U	
20	G^2	11	J - W - Z^2 (a few	Return
21	G^1	21	V - U - Z^4	Return

#32 Dec 10

Poured iron matrices #3 - standing up - 24
" #4 - face down - 25
A^2 - b - XIII - M

Poured plate for surface - face down
A^2 - b - XIII - M

Poured plate for surface - standing up
A^2 - b - XIII - M

Opened matrices on Dec 14
#3 - W - quite some Z^2 - V - ~~poorly~~ 24 is too thick and A adheres to it, causing surface to be less good -
#4 - Z^1 - W - one place stuck - absolutely not Z^2
See position #25

#33 Dec 14

Found in mutilable #5 - face down
A² - 6 - XIII - M - applied 25
pil #26

#6 - up - mis 24 -
A' - C - XI - M pil #26

Cornice #8 - down
A' - C - XI - M pil #28

Opened #5 & #6 on Dec 16 -
#5 - not as put on #4 - } stitch at more places
#6 - a little little thin #3 } pil. #26

Opened Cornice on Dec 17 - nearly perfect
on or 2 little places on lentile stitch
and 2 " points in tapeline
See piel. #28

Result of plate test - Opened 18th

32 - 55 - U - Q - Z^3
48 - 44 - 25 - Z^1 - Z^4 - V
27 - 56 - W - Z^1 - Z^4 - Z^5
12 - 53 - Q - Z^3 - U
24 - 52 - Q - U - Z^3
14 - 51 - G^1 - Q - Z^3 - U
30 - 57 - U - Q - Z^3
29 - 57 - 25 - Z^2 - W - J
11 - 50 - U - Z^3 - Q
28 - 49 - U - Z^3 - Q
46 - 49 - 25 - Z^1 - W
49 - 44 - V - U - Z^3
36 - 39 - Z^1 - W
37 - 41 - Q - U - Z^3
38 - 42 - W - V - a few places stuck, but not enough to thaw stone
39 - 25 - Z^1 - W

4 - A^1 - Q - too not thick enough
other Z^1 had cracked - maybe too green
only 15 g -

Surface of #8 easy to rub off - not so of #4

#84 Dec 16

Poured 2 bones (16 plates) for surface
A^1 - XII - ~~A~~ C

Poured 9 bones with bolts -

Box	Weather	Weight of quinine	Result		
1	steel - G^1 -	15.4	U -	Z^1	Noted that all plates (skin had 25) had new starting to crack and new cracking
2	"	"	U -	Z^1	
3	" - 25				
4	C.I. - G^1	15 g	U -	Z^1	
5	"	"	U -	Z^1	
6	"				
7	" - 25	15 g	V -	Z^1	
8	Wood - G^1	"	U -	V	
9	"				

Poured 10 washers
4 - A^1 - C - XII 2 - A^8 - 2 A^9 - 2 A^{10} -

Poured mutetables #7 - drum - 25 } A^1 - XII - that C
" 8 " 24 } Inch M

Opened mutetables Dec 18
#7 - Z^1 - a few Z^2 - W
#8 - Z^1 - W - mould dropped back by accident and damaged cast a little -
[rel. #29]

#85. Dec 17

Plugging up test. —

~~Bore~~ Mix

1 A' - Y - one side Bond get 1/2 way - other side all 1"
6 " - put in more A - mixed J -
7 " " Same ——— - 25 days not been to effect bonding

Sawed to makers — all Cementing of mortar

2 - A 8
2 - A 9
2 - A 10
2 - A 11
2 - A 12

Opened Dec 18 - Ucf. 1 2 3 ing All J.

Recast of plugging test

#1 - Color fairly good - bond OK
16 - " " " "
7 " " " "

Broke blocks to judge bond Dec 23

#86 Dec - 18

Power Crusher #9 - Room
A' - 8 - XII - M -
Opened Dec 22 - Z' - IV - 1 or 2 Z^c

fail #28

Plugged up holes as follows — of test #34

2 - A' filling - A^10 facing - standard LA (3) Comes
3 " " " under
4 " " " #34
5 " " "
8 " " "
9 " " "

Result -
Broke blocks to judge bond Dec 23
#2 - no bond - no cracks in surf - bond is fine good
3 " cracks " "
4 bond no cracks "
5 " " "
8 no bond cracks "
9 bond no cracks "
#3 and 8 - The Cor. m. not bonded w/ all to surfs - and between the 2 m. a cracks.

Received of plate test - Opened Dec 22

35 - 46 - 25 - Q - U
33 - 43 - 25 - Q - U
28 - 27 - 25 - Z'
34 - 45 - 25 Z'
42 - 45 - Q - U
41 - 45 - 39 Z'
47 - 44 - 25 Q - U
46 - 49 - 25 Z' - little Z^2

48 - 47 - 25 Q - U
43 - 47 - 42 Q - U
26 - 43 - 25 Z'
44 - 43 - 42 Z' - Z^5
31 - 30 - 39 V - U - Z^3
36 - 39 - Z'
38 - 42 Z' - Z^5
29 - 57 - 25 J - little Z^2 little mostsports

See pict #26 for tickers —

#87 Dec 19

Found iron matectable #10
A' - 8 - XII - M
Opened Dec 22 - Z' - W - pat. #29

Found 2 boxes with plates for surface
A' - 8 - XII - M

Found washers -
2 - A' } Reinforced with 2 rings
8 - A^{10} }
Opened Dec 22 -
The 2 - A' - W - rest all J -
Some broke - to green

Found 9 boxes for bolt hole test plates

1 - steel - $\frac{1}{4}$"	211 Bore - A^9 fair - poor. good - poor	
2 - "	211 Bore - poor - good - none	
3 - " 1"	211 Bore A^{10} fair - bad - bad - poor - some poor	
4 - C. I - $\frac{1}{4}$"	A' Bore - poor - poor - behind OK - none	
5 - "	A' Bore - $1\frac{1}{2}$ fair - fair - OK - some	
Drawn out"		
7 - "	$2\frac{1}{2}$ $1\frac{1}{2}$ 1 all - fair - good - some	
8 - Wood - Shellac	Q - on account of breaking of wood	
9 - " - 51	Flush on Cracker	

Filled Dec 28 - Feb 89

Washers - W - tub out separator also - being low on account of oily surface. —

#88 Dec 21

Pound slab -

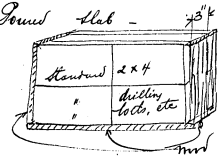


plate are finished - 57 when L² in Castings.
used C.I. molds - 1" thick pipe separator -

reinforced with .6 % mesh - 7/16 □ rod - set from slab 8½ CC
2 pourings - ⅝ to ⅜

A' - 8 - XII - slightly M - Super - 25
mixed in Ransome mixer - 6" - dumped in bucket and mixed more and poured

Tops woven side off Dec 22 and levelled off top. —

Took plates off Dec 24 - Foreman - a few A' - near top concrete also dense - in general good - 57 turns to leave well - near top slab had bust and not filled & bolthole with A' - 14 - seemingly good color

#29 Dec 28 All down

Poured as follows: - R: 8-XII

5'-0" Curve waterstable #1 - G.V. 25
lifts moved Dec 28 - Z: 0 for L^2 pict #27

Archpanelborder #1 - G.V. 25
opened Dec 28 - Z: - Some L^2 pict #27

Waterstable & Curve #1 - G.V. 25 pict #27
opened Dec 28 - nearly L' - Some L^2 - 8 feet place stitch

12"x12" Corner of waterstable #1 - G.V. 45-39
new sand used
Opened Dec 28 - Z: - Color Antler - Surface L pict #27

Curved windowsill #1 - G.V. 45-39 - new sand
Opened Dec 28 - Z: - Surface Z pict #27

Straight waterstable #9 - R: 8-XII - Mixture of H.
#11 " 45-39
Used - for S_2 - $\frac{1}{2}$ S_2 (crane) - $\frac{1}{2}$ - S_3 } F - Q, E - E_2
for S_1 - used S_4
Opened Dec 24 - Damaged #9 - but Z: - 0 for L^2
Side #11 " "
Color: slaty grey pict #26

Filled boltholes (see page 71)

Weather

Jan 9 - Cloudy - slight thaw at night
" 10 - " - Damp
" 11 " " - slight rain during night
" 12 " " " " followed by frost
" 13 freezing - clear - snow during night
" 14 slight rain in morning & during night
" 15 clear, thawing, freezing during night
" 16 cloudy, freezing, in afternoon snow
" 17 snow & rain, freezing
" 18 clear, freezing
" 19 " "
" 20 " "
" 21 " slight thaw
" 22 " thaw

Continued page 78

New starts here.

#90 Jan - 9

Put 6 plates out in the weather at 11 AM

15 - G_1 -	Evenly covered with rust
31 - G_1 - 39	Numberless rust spots
27 - G_2 -	Slightly rusted
36 - G_2 - 39	no rust - a few minutes days - ~~rust starts~~
37 - G_1 - oxidized	Evenly covered with rust
48 - G_1 - " - 39	rust spots - less than 31
#under drops	slight discoloration (yellowish)

Jan 12.	Jan 13	
Same	Same	ice in all surfaces.
more spots -	Same	
little more rusted	Same	
Same	Same	
Same	Same	
more spots - less than 31	Same	

Jan - 14 - Covered with snow - one spot over 36 - discoloration more pronounced - turningly rust starts —
Jan 15 - all more rusted — 48 still covered with snow
36 - Evenly starts to rust.
Jan 16 - All except 27-36 thick rich rust, 15 & 37 evenly
27 - some rust - 36 very slight rustspots, hardly noticeable
Jan 18 - ~~[illegible]~~ Covered with ice and snow.
Jan 19 - " "
Jan 20 - " "
Jan 21 - " "
Jan 22 - All more rusted - #36 - a few slight rustspots

#91 Jan - 14

Found Bags for impermeability test
#1, 2 & 3 — A, + XII Patent 6
used little pouring tank - opening too small,
Cont. chokes in it - lost considerable water in
miner on account of leakage -

#4, 5 & 6 - A^2 - $S\frac{3}{8}$ XIII - Mined (mv) D_2
F_1 - E is E_1 P = b

Filled 2 bores (with Lime plate) with A, min
#1 - Lime - G_2
#2 - " - G_1

Tested 2 cubes of test #40 - 7+83
$\left.\begin{matrix}55\\680\end{matrix}\right\}$ 620

Opened Bags Jan 13 - #1, 3, 4, 6 Cracked, on
account of swelling of molten Lime.
Opened bores -
#1 - W - surface Z - a few L_2, on account of ~~[illegible]~~ M_4
Z_3 and M_1
#2 - W_1 - { see picture #33

#92 Jan 18

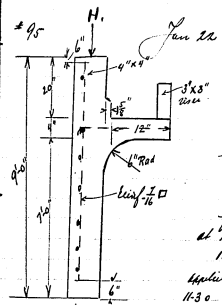
Found bones 1 & 2 with Rinefplates
A_1 - 8 - XII
#1 - G_2
#2 - G_1 - 39 } M_3 - M_1 - wood, shaking box

Opened Jan 22 - #1 - W_1 smoothed - Z_3 - little Z_2
#2 - W_1 a little - Z_2 - Z_3 - bed Z_1
on place Cover. W_2 - see fig #33

#93 Jan 20
Tested 2 sticks of bed 4.6 6 + 84
1472 } 1333
1194 }

#94 Jan 22
Found bones with Rinefplates
A_1 - 8 - XII
#1 - G_2 - 39 } M_3 - M_1 - waved.
#2 G_1 - 25

Opened Jan 26 -
#1 - a little W_1 - Z_3 - 1 for Z_2
#2 - W_1 - Z_3 - Z_2 - on little place W_2
see fig #33



A₁ - 8 - XII
First pour filled all nearly - F & J - Corner up through iron topped iron off mid flush with top pour - While melting for 2nd pour M - all M₈ filled at 10-55 at 11-5 - applied Mg. O - 11-15 do

Applied Same at 11-20 - 11-25
11-30 11-32½ - 11-34½ - 11-36
11-37½ 11-40 11-43 - 11-46
11-49½ 11-51½ 11-54½ 11-58
11-57½ - 11-58½ 12-0 12-2
12-3 12-4 12-6.5 12-8 12-10
12-12 12-14 12-16 12-18 12-20
12-22 12-24 12-26

Final H₁ being qvv O - Total H shut M"
Applying of H₁ not noticeable at iron - Removed H₁ Jan 25

Foot form off Jan 26 - all U - Surface Q₁ for ~~[illegible]~~ X₁ - Corner in 3rd pour Q on account of X₁ Absolute no Z₈ - iron broke off while removing nuts - See pictures 31 & 32

Jan 23 - damp, cloudy, thawing
Jan 24 - foggy, thawing
Jan 25 - clear weather, about freezing
Jan 26 - " " "
Jan 27 - " " "
Jan 28 - " Cold
Jan 29 - cloudy - snow & rain afternoon - snow during night
Jan 30 - snow - freezing afternoon
Jan 31 - clear - freezing
Feb 1 - freezing - clear
2 " "
3 - snow
4 to 13 - snow, rain, freezing, etc
14 - rain

#90 - Continued from page 74.

Jan 23 - Same as 22 -
Jan 24-25 "
Jan 26 - 36 starts rusting - 27 - not evenly rusted yet
27 "
28 "
29 - Colored mist snow
30 - "
1 - 36 - 27 & 37 hardly covered with snow
Rd 9-11 except 36 & 27
2 - Same
3 - Cloud mist snow
12 - 36 - a few L 10 - 27 Same

#96. Jan 26

H_2 of Cake 49 (one $3\frac{3}{7} \times 6$ - 6 + 85
one 6 x 6 - 10 + 87

505
558 } 532 826
805 } 815 ← replacing outer ½

#97 Jan 27

H_2 of Cake 52 8 + 83
795 ← 1144

Jan 27

#98

Poured A^3. very thin, on old block, transface surf - not melted

Also - on block - surf melted thoroughly

1st sets quick, dries quick — R_2
2nd " slow " " — R_1 } See point #33 { A B

#99 Febr 3

H_2 of Cake 58 6 + 84
425 × 612

#100 Febr. - 10

Found ornamental mouldings in plasterwork — 39
A' - XII - 8 —
Fork for moulds lifts off Febr 11
Fork moulds off Febr 13 — moulds stuck
had by setting plaster, came off fairly
good. —

#101 Febr 24

H_c of Pots 74 9-84

535 B. 770

#102 Febr. 24.
Mat A - on top } mere nails Best
" B - nailed half } Very good
(bottom picture)

#102 Feb - 25

Covered 2 blocks of linseed, thoroughly dried, one with 14 (2 coats), one with 53 ~~on~~ 19 - put on windowsill in open air on Feb 26

April - 5 - A - Some places 14 cracked
B - also cracked & 53 shriveling
off - Q

104 - on block of test 35
14-14 on open - perfect
5-5 "
20-5 " not very glossy
13-13 "
on grid surface
4-4 O.K.
18-18 } yellowish
19-19 }

red tint
yellow tint
— " "

105 July - 19

Slab for color - experiments (Mr R)
2'-0" x 2'-0" x 3" — used Cast Iron
covered with wooden sides —
#1 opened 7/21 - for green - Stuck some places
opened #2 7/23 - Stuck quite by spots
#3 - 7/27 - 2 little spots stuck
grapshots of cracking comes off and
Ruins surface

106 poured same slab - #1 plug -
cleaned plate with muriatic acid -
opened 7/27 - comes off clean
and easy - yellow tint

107 Poured 6 cups for waterproofing tech -
used 6 given 7/23 - for green
~~opened~~ left plugs out of use - 7/26 - come
out clean

7/27
108 - Poured 6 cups - opened 7/30
came out clean

109. Poured box with clear paint
opened 7/30

110 Poured 6 malleables — 7/27
Cement 1-2-8 on 7-30 —
made by green — cement
mixed have been slow setting. —

111. Clay - 2
Poured 6 cups for waterpr. tests

112. Poured slab (36 squares) for color-
supplement

113 Poured 6m with glass fun! - glass bottle

114 Poured 4 cubes for comp. test

115 (W.) Tested red clay of banks.

115 – 8/2
Tried to use yellow clay – Oil had broken more dirt and grit, and quantity used is more than gray

116 – 8/5
Made 6 cups for molecular tests

117 – 8/2
Found 36 blocks for color tests

118 – 8/9
Tested cubes of test 114
Ass'y. 316 —

119 –
120
121
122
123
124
} Analysis of sand, slag, etc. & test mix streams. —

Notebooks by Experimenters Other Than Edison
Group 5: Chemical Laboratory

The forty-one notebooks in this group contain routine reports of ore assays, chemical analyses, and other work performed in the chemical laboratory of the West Orange laboratory complex during the period April 1899-March 1913. They were used by many Edison employees, including Cloyd M. Chapman, Peter C. Christensen, and Ludwig F. Ott. Occasional notations by Edison indicate his attention to their work. Among the tasks reported are assays of copper, gold, iron, and nickel ores, as well as cement rock. There are also reports of quantitative and qualitative analyses of various materials and chemical compounds such as pig iron and soft coal, along with analyses of ingredients and components used for phonograph record blanks. There are some entries relating to the production of storage batteries, including analyses of the acid baths used to produce nickel flake for battery electrodes. The books contain a variety of other experimental and test reports, including one on the "preservation of horse dung." Entries in German are scattered throughout several of the books. In addition to the entries by Chapman, Christensen, and Ott, the books contain notes by other laboratory employees, including O. R. Foster, Horace W. Gillett, Otto Groethe, Henry S. Harris, Harold Kirschberg, Ross Phillips, Robert Rafn, John O. Roos, John C. Shengle, H. L. Shock, and F. W. Weber.

The one selected notebook, N-05-12-21, was used primarily by Ott. It contains extended marginal notations by Edison indicating the results of solubility tests and other experiments related to the production of components for storage batteries. Only the portion of the book with Edison's notes has been selected.

N-Number	Label or Inscription on Front Cover
	[additional information supplied by the editors appears in brackets]
Selected Books	
05-12-21	---
Books Not Selected	
99-04-15	--- [cement assays]
99-06-22.2	"General Analysis H.L. Shock 1899 J.C. Shengle 1900" [ore]
99-06-24.2	"#1 Assaying #1 to 190 A"
99-10-06	"Analyses of Raw Rock Book #2"
99-10-19	"Cement Analysis Book #3"
00-01-10	"Analysis for the Edison Mfg Co" [by John C. Shengle]
00-03-29	"Analyses" [ore]
01-04-10	--- [storage battery, phonograph cylinder, and other subjects]
01-06-21	"Mount Olive Range"
01-06-22	"Mount Olive Range"
01-09-04	"9-5-01 Nickel and Copper Analyses"
01-12-11	--- [ore survey and analysis]
02-07-16	--- [storage battery, phonograph cylinder, ore analysis, and other subjects]
02-11-10	--- [lime slaking experiments]
04-01-11.1	"Rob. Rafn Jan 11 1904" [ore survey and analysis]
04-01-11.2	--- [continuation of N-04-01-11.1]
04-11-21	"Laboratory Notes Edison Laboratory Dinan" [storage battery, cement, phonograph]
05-00-00.2	"Thermochemical Data"
05-00-00.4	"Caskey Vol I." [titanic acid and sodium bisulfate]
05-07-14	"Analysis Lab Edison"; "Testing Cobalt Ores for Radium"
05-09-29	--- [ore survey and analysis]
05-10-02	"O.R. Foster" [ore analysis]
05-12-24	--- [ore analysis]
06-01-29.2	"Notebook R. V. Husser [?]" [cobalt]
06-02-26	"[Composition?] von Ludwig Ott" [cobalt]
06-05-02	"Ludwig Ott" [cobalt]
06-07-02	"H. W. Gillett July 2 - Sept. 7 1906" [metals for storage battery]
06-09-11.2	"11 9 06 Dr Weber"
06-10-01.2	"H. Kirschberg" [storage battery or related subjects]

07-01-00	"Dr. Weber Experiment und Praeparate 1907"
07-01-01	"Samples Tested for Cobalt 1907 Edison's Laboratory"
07-01-11.1	"R Phillips" [storage battery]
08-09-04	"Bull Shit Book Cave" [viscose experiments]
08-12-07.3	"Belt Experiments"
09-06-00	"Distillation of B.S., Gilsonite Etc. Cave"
09-09-02	"Experiments of Paul Senter Laverty" [motion picture film]
09-11-15	"Notebook of Ludwig F. Ott Containing Experiments and Analysis for T. A. Edison——From Nov. 15 1909 to June 22, 1910" [storage battery and other subjects]
10-00-00.1	"Solvents"
10-01-19	"Ch. Christensen Edison Laboratory Orange N.J. Jan 19–1910" [disc phonograph records; storage battery]
10-02-02	"Ch. Christensen Edison Laboratory Orange N.J. Feb 2nd 1910 Experiments for Mr Th. A. Edison" [disc phonograph records; storage battery]

Notebook, N-05-12-21

2 2a no dis

3 good solvent 3a no dis

5 very good dis - 5a dont seem [illegible]

7 7a Colored

8 dis a little - 8a solid swells up [illegible] comes out top bottle - see about this.

9 - 9a neither dis

11 11A neither dis

12 dis good 12a dont dis

Solubility of Dec 21/05
Cobalt and Nickel Sulphates in.

Co 1	>	Chloroform
Ni 1a		
Co 2	>	CS_2 dont.
Ni 2a		
✓ 3	>	Ether dont.
3a		
4	>	Ethylic Alcohol
4a		
✓ 5	>	Butylic " .
5a		
6	>	Amyl Nitrate
6a		
✓ 7	>	Aniline (other Cobalt) . !
7a		
✓ 8	>	Benzaldehyde .
8a		
✓ 9	>	Nitro Benzole .
9a		
✓ 10	>	Carbolic Acid
10a		
✓ 11	>	Benzoyl chloride L
11a		
✓ 12	>	Aldehyde dont.
12a		

13 13a nucleus clear

14 14a good clear bath

15 15a no clear

16 16a good clear

17 17a no clear. 17 gas acid whereas 17a liquid

19 19a no clear

20 20a no clear

21a - Colored lumps no clear

23 23a [illegible] clear a little, 23 [illegible] clear

25 25a no clear

13 co / 13a mi	Butyl (iso) Acetate
14 co / 14a mi	Camphor
15 / 15a	~~Carbon tetra chloride~~
16 / 16a	~~Chloral Hydrate~~
17 / 17a	~~Cresol (Para)~~
18 / 18a	" (Meta)
19 / 19a	Cumol
20 / 20a	Eucalyptol
21 / 21a	Fenchurine
22 / 22a	Mono chloro-Benzol
23 / 23	~~4 bromo~~ 4 Bromo
24 / 24	Methylin
25 / 25	Oil Amber

26 26a precip - big growth on both

27 27a both good dis

28 28a dont dis

29 29a - dont dis

30 30a both dis

31 - colored

32 dis fair. think 32a dis some contag

33 33a - 33 dis fair - 33a dont dis

34 34a neither dis

35 35a neither dis

36 36a neither dis

37 37a - 37 (dis no) 37a dis

38 38a both dis

39 39a Colored dug

26 / 26 > Pyridine

27 / 27 > Alcohol Propylic

28 / 28 > Castor Oil

29 / 29 > Oil Hemlock

30 / 30 > Acid Meconic from arctic

31 / 31 > Amyl Iodide

32 / 32 > Oil Fusel

33 / 33 > Amylene Hydrate

34 / 34 > Terbene

35 / 35 > Terpinol

36 / 36 > Terpineol

37 / 37 > Paraldehyde

38 / 38 > Filix dep (Fern)

39 / 39 > Creosote (Beechwood)

40 40a neither dies

41 41a Colored Lig

42 42a neither dies

43a dont die

44 44a both die

45 die and 45a dont die

46 46a neither die

47 one dead 47a not die

48 ~~(very slightly swelled)~~ 48a not swelled at all not die

49 49a Colored Lig

50 50a Neither die

51 51a neither die

52 die 52a dont die except a little swelled

53 53a neither die

40 / 40 > Styrol

41 / 41 > Isobutylbromide ✓

42 / 42 > Iodin Acid ✓

43 / 43 > Methyl Oxid Salicylic (Methyl)

44 / 44 > Aethylacetic

45 / 45 > " Salicylic ✓

46 / 46 > " Benzoic ✓

47 / 47 > " Succinic ✓

48 / 48 > Di Amyl Amine ✓

49 / 49 > Apiol ✓

50 / 50 > Anisol ✓

51 / 51 > Aether Oenanthic ✓

52 / 52 > Amyl Oxid Butyric ✓

53 / 53 > Benzene Aldehyde ✓

54 54a ~~both~~ neither dis ~~both~~	54 54 > Methyl Oxid. Benzoin ✓
	55 55 > Acetal
56 56a Sol colored	56 56 > Acthyl Anilin ✓
57 57a Sol Colored cant see if dis	57 57 > Methyl diphenylamine ✓
58 58a neither dis	58 58 > Carbon Bi chloride ✓
59 59a good dis - 59 - good but red	59 59 > Hydroxylamine Hydrochlorate ✓
60 60a both dis. good	60 60 > Nitro Ether ✓
61 61a apparently neither dis	61 61 > Mono Chloro phenol ✓
62 62a neither dis	62 62 > Dibutyl sebacylat ✓
63 63a 63 dis some trouble 63a apparently none dis	63 63 > Anthr Oxalic ✓
64 dis some 64a dont dis apparently	64 64 > Amyl Oxid Formic ✓ not enough
65a slight dis. no 65	65 65 > Hydron not enough
66 66a 66 slight dis 66a Cant see any dis	66 66 > Amyl Butyrate

67 67a precipitate smaller both up enormously	67 67 — Tri methyl amine
68a good dis 68 atts	68 68 — Ethylene Mono Acetate
	69 69 — " Chlorohydrate not enough
70a - dont dis - no 70	70 70 — Nitro Propionic not enough
	71 71 — Acetal not enough
72-72a Dont dis	72 72 — Acrolene
73-73a both good dis -	73 73 — Ethyl Alcohol
74-74a good dis dense both	74 74 — Methyl " Absolute
75-75a Colored cont any of dis	75 75 — Styrone [Liquid]
76 76a - Dont dis -	76 76 — Isobutyl Aldehyde
77-77a 77 dis considerably but not 77a scarcely any dis	77 77 — Methyl Salicylate
78-78a both slightly -	78 78 — Ethylene Chloride
79-79a dont dis	79 79 — Isobutyl nitrate

80 80a both dissolve in bottle

81 81a precipitates, swells up enormously

Both dissolve - Co Rd.

80 } Pulsatin
80

81 } Picolin
81

82 } Isopropylcitric
82

83 } Myristic
83

84 } Naphthalene Monochloride (alpha)
84

85 } Methylene Iodide
85

86 } Quinolin
86

87 } Oil Peppermint
87

88 } Frenched
88

89 } Lavender
89

90 } Juniper Berries
90

91 } Pear
91

92 } Rosemary
92

101 bo discolors slightly when used

104 bo discolors slightly

93 > Peppermint Oil
93
94 > Oil Orange
94
95 > " Savine
95
96 > " Rosemeed
96
97 > Rosemeed
97
98 > Cedrat
98
99 > Rosewood
99
100 > Fennel
100
101 Wintergreen ✓
101a
102 Jasmine
102a
103 (Pepper (Black) (Red)) Thyme
103a
104 Eucalyptus ✓
104a
105 Birch
105a
106 Mace
106a

157 stront
158 Pb
159
160
161 Chloride Aluminium
162
163
164
165
166 Arsenates K potassium
167 (Arsenate) Na sodium
168
169
170
171 Arsenites K
172 (Arsenic) NH_4 ammonium
173
174
175
176 Arsenides
177
178
179
180
181
182 Cyanates Mg (auto)

Notebooks by Experimenters Other Than Edison
Group 6: Meters [not selected]

The seven notebooks in this group cover the period February 1899-February 1904. They were used by Edison employees P. F. Cowing, H. M. Phillips, John O. Roos, and Nils Traaholt. The entries in N-03-11-16, by Traaholt, are stamped by Frank L. Dyer. The books contain logs and experimental notes relating to meter tests, which were probably done for the Edison Illuminating Co. of New York. The meters tested are mechanical rather than electrolytic or electrochemical.

N-Number	Inscription on Front Cover or Flyleaf
99-02-28	"Experimental Integrating Meter Motor type H M Phillips Feb 28 to May 22, 1899"
01-09-20	"J O Roos Expts on Meter, Plating Zinc on Magnesium, e[t]c."
02-02-25	"Recording Ammeter job 868 & job 1323 Book II"
02-09-03	"Recording (cores) Ammeter P.F. Cowing Book I"
02-12-05	"Recording Ammeter job 1323 Book III Dec 5th 1902"
03-09-30	"Electric meter 1903 N Traaholt"
03-11-16	"Nils Traaholt No. 2"

Notebooks by Experimenters Other Than Edison
Group 7: Phonograph Experiments

The twelve notebooks in this group cover the period January 1900-January 1911 and are divided into three subgroups. They were used by Edison employees, including Ignacy Goldstein, Alexander N. Pierman, John C. Shengle, and Charles N. Wurth. Occasional notations by Edison indicate his attention to their work. The books also contain notes by other laboratory employees, including Peter C. Christensen, Paul S. Laverty, John F. Ott, Frederick P. Ott, and Martin A. Rosanoff.

Ten notebooks have been selected, along with one loose item from N-09-01-03. Of the unselected books, N-03-01-07 was abandoned after five pages of perfunctory notes on cylinders; and N-09-01-03 contains extensive foreign-language entries that are summarized in the selected loose item, a letter from Goldstein to Edison.

Phonograph Records—General

This subgroup contains general notebooks that focus on the chemical composition, hardness, durability, and molding of record cylinders and discs. The research documented in these books ranges from tests of waxes and metallic soaps for cylinders to later work with shellac and other resinous compounds for discs.

N-Number	Inscription on Front Cover or Flyleaf
	[additional information supplied by the editors appears in brackets]
03-03-14	"M.A.R. 1418"
03-10-05.2	"M.A. Rosanoff, No. 1"
09-01-03	"Record Wax Goldstein" [only loose item selected]
10-07-29	"Shellac and Napttaline PSL"
10-11-19	---
03-01-07	--- [not selected]

Phonograph Records—Shengle Books

This subgroup contains notebooks that relate specifically to the work of John C. Shengle and his assistants in the chemistry laboratory of the West Orange laboratory complex. These books focus primarily on the chemical composition of record cylinders. Books 2-4 contain numbered experiments 666-1045. At the beginning of Book 2 are additional notes on a variety of chemical experiments and analyses dealing with ores, batteries, waxes, and acetylene. Book 1 has not been found.

N-Number	Inscription on Front Cover or Flyleaf
00-02-27	"2"; "General Analyses & Experiments. Work of Geo. Horn and McGraw under supervision of John Clarence Shengle Book #2" [including experiments 700-799]
00-03-12	"3"; "Phonograph Cylinders Book #3 John Clarence Shengle" [including experiments 666-699, 800-999]
00-05-25	"4"; "Cylinders"; "1900 Phonograph Cylinders Book #4 John Clarence Shengle" [including experiments 1000-1045]

Phonograph Recording and Reproducing Apparatus

This subgroup contains three notebooks regarding the phonograph machine itself and includes material on the improvement of recording and reproducing mechanisms. The first book contains two pages of notes by Frederick P. Ott on diaphragms. The second book covers the period 1905-1910 and was used by Charles N. Wurth, a long-time Edison employee, to describe his work on phonograph recorders, reproducers, and attachments, as well as the composition of records and the duplication of masters for record manufacture. Also included are a few experiments on a combined phonograph and motion picture device. The third book is from the Legal Department Records and pertains to the patent interference case, *Dennison* v. *Pierman* (no. 28,395). It contains Alexander N. Pierman's notes on a pneumatic amplifier, a device that is also mentioned in Wurth's notes.

N-Number	Inscription on Front Cover or Flyleaf
03-10-09	"Fred P. Ott, No. 2"
05-08-15.2	"C. Wurth August 15, 1905"
[unnumbered]	"D[ennison v.] P[ierman] Intf"

Notebook, N-03-03-14

M.A.R. 1418.

Try pl. alone; Pb, + Hg, with Na-salt. Try C_6H_5OH with K-salt.
Try Cathodic &c.

Try mixing in diff. proportions.
Try " " " " " " " " " "

(opal. not so opaque)

Na-stearate hard; sol. in CH_3OH, $(CH_3)_2CO$ (!), C_6H_5OH;
from latter two transparent. To soften it, I tried to prepare non-crystalline transparent mixtures with K-salt.
The latter obtained pure by titration (not carbonate). It crystallizes with much greater readiness than Na-salt. Mixed acetone solutions of Na-salt + K-salt in different proportions: on cooling all crystallize. Tried mixtures of alcohol & acetone as solvents: same result.
Tried adding various proportions of glycerine to acetone solution: same result. Tried adding oil &c.: same result. ∴ K salt alone or with Na-salt unsuitable.
Na & K salts insol. in oils. Mixtures rough under micros. Fatty acids probably soluble in fats.
Stearic & oleic look rough.
Na-oleate alone (oil. glass, not fan-like grouping)
Na-stearate + oleate may work.
Examined lead oleate: with alcohol, ether, acetone, ether, aldehyde, carbon disulphide, + by destructive distillation: negative results.
Saponified: 1 lb. castor oil by stirring with strong NaOH + later dilution + pouring out. Some [illegible] (Then [illegible] with small quantity of water [illegible] pouring into [illegible] and from mixture [illegible] separated [illegible] NaOH. Washing latter twice by boiling KOH first strong, then diluted with 10 l. steam. Boiling sol. with

List of the preparations.

1. Натрій смесерть обыкнов. Не могъ быть в (in sufficient quantity)
2. Сурьмяной litho из реактивовъ масла.
3. Пальмовое масло сушенное дистиллированій со спиртомъ и растворенное в алкоголь и небольшимъ количествомъ спиртного уксуса. Пальмовое масло и воскъ (?)
4. То-же от масло небольшимъ количествомъ спиртного уксуса. Минералъ говоритъ отлично.
5. То-же; очень мало с.-у., но порядочное количество смесерта. Минералъ говоритъ не стоитъ производить, но я думаю, что можно 'исправить' натуру.
6. Калій стеаратъ – перекристаллизованій. Растворить 10 гр. в большомъ алкоголь; разбавить кипяченой водой, пока пена исчезнетъ. К небольшому количеству масла прибавить с.-у.; разбавить: горячій растворъ при объемъ, выкристаллизуетъ и послѣ исчезнетъ с.-у. – нитрограмм. То-же от прежнимъ растворителем.
7. Натрій смесерть изъ алкоголь, дважды перекристаллизованный.
8. Натрій стеаратъ из алкоголь (Кадмиумъ) Не растворяется вполнѣ в алкоголь.

HCl (about 10.); on cooling, separates the solid acid & treated with boiling H_2O; on cooling, dried the acid by pressure and tried purify by distilling in vacuo (Krafft) lost about 3 days on this purification & did not succeed (foaming, acid looked impure); separate by alcohol, ether, carbon disulphide, benzol acid; the impure material with bombsalt, stearic acid & the mixture of the two separated. Stearic acid purified: the mixture was with the iron.

KOH. Results no good: the alkali salts are completely soluble in H_2O or alcohol.

HCl does not completely decompose them.

Examined mixture wax: it is no good, completely soluble (4 times) in alcohol, etc.

Other spoiled.

I works excellent under knife. Shrinks.

X too shrunk

Other too shrunk

Addition of some NaOH to other gives transparent sol. Small sample still drying.

Tried NaOH with I: when quant. of NaOH is small, some improvement in transp. when greater – separation into two layers; remarkable fluorescence in this & several other cases. (See next page Cal. sheet I). Not worth while trying further.

9. Желтое масло, сгущается при высокой темп. Очень мало в натронном, без изменения в хлоформ. Тонкий осадок нитрата

10. Лишний остаток.

11. Z. Тяжелое, похожее на жировое натрий без изменения или хлоформ.

V. Похожий на натрий, тяжелое и коло-т. о.т. Ca нитрат не

[illegible]

1. Na. Тяжелое в натрий. Без изменения или хлоф.

T. Тяжелое и хорошо отде. в стрелки. Кристаллы. Без изменения или хлоф.

Y. Рыхлый застр. хорошо отде. в тяжелое в натрии. Без изменения

3

Examined commercial palmitic acid; dist. in vacuo, separated into 3 portions; 1 black left behind; the liquid(!) with NaOH – transp. soap, very Red; 3 solid(!) with KOH jelly-like mass. (transp.). Experiment abandoned as unsuitable on account of impurity of commercial product. But K-Kremben transparency.

Z does not dissolve in usual amt of 90% alcohol. Solution perfect opaque on cooling + some liquid(!) remains free, as it is chemical excess (see footnote, Cerp about NaOH). ~~Again cylinder used before solution; result no good.~~ Again better partly.

Repeat K – ~~[illegible]~~ underexamination

" Na " "

Na – Kremb with my soap-alcohol – transparent but hard (in dryer).

~~[illegible]~~

Palmitic acid:

26 g. Japan wax saponified with ~~[illegible]~~ 100 g. KOH (Merck sticks) and ~~[illegible]~~ 200 g. H_2O.

Dissolved 2g. K-palmitate (crude) in 8,7cc of my alcohol; on cooling, no ~~sepa~~ setting; ~~dissol~~ dissolved in this as much as possible Na-stearate (with smaller units – no setting); result: on cooling, soft, soapy, non-transparent mass. But remember the solvent capacity of K-palmitate. Sample still drying.

Na-stearate dissolved in my alcohol, filtered from residue); on setting, added little c.y., which re-dissolved the mass; left solution to evaporate; it set ~~[illegible]~~ transparent but opalescent; still drying.

Examination by Miller Mar. 23 of samples made Mar. 14:

(a) G worked with double spectacle. Rough under micro.

(b) P + 10% – promising. Apr. 8 – dies?

(c) Z (thick sample cut down thin). Even better than following. Not clear in [illegible] 8 [illegible]

6 (d) Z (thin cast – unfiltered, slow cooling). Very promising, excellent cake. But not ~~[illegible]~~ absolutely clear. Not tough, not sticky.

6 (e) P. Promising. Not tough. Not sticky. Excellent cake, much like Z. Not absolutely clear.

Z (Grimeaux, rapid cooling). Much worse than Z above (slow cooling).

All these put up in tin cans on Mar. 25 & taken out again Apr. 3 (except B, which had been taken out much sooner).

Preparation of Sulphocarbanilide: purified commercial aniline, mixed in proportion of 2 molecules of aniline to one of carbon disulphide (slight excess of latter) added &c. 95% alcohol & allowed to stand for a warm place, for two weeks the mass was completely solidified. It shows distinct crystalline structure which cannot be destroyed by heating with aniline. It chips & splits entirely inappropriate for cylinders.

Prepared Li-stearate, on account of its being an amorphous substance. It does not melt, comes down from its solution as a powder (discuss this point with Mr. Cadwa.), & entirely inappropriate for cylinders.

Prepared Na-propionate, on account of its being an amorphous substance. It does not melt, comes down from its solution as a powder, and is by itself entirely inappropriate for cylinders.

Breaking the grain of steel is well worth investigating. So far past results on account of roughness of surface; but systematic work may lead to interesting results.

Perhaps the same about the rod.

(g) Examination by Miller on Mar. 26 of sample X + $\frac{X}{5}$ 2, delivered Mar 18. Result (pale straw-colored Madeira Cut, perfectly smooth, not sticky, extremely easy cut, very slightly damp, somewhat damp, but this is harmless). Thus far the tolerance is excellent, requires careful refining; but this is impossible on account of the loss of foreign material.

(h) X + $\frac{X}{5}$ 2. Additional light: ~~is~~ is excess of the above, fetters, distilled water, made, cast March 29. Apr. 14 - little change for a week quite excellent.

(i) same (h). Mar. 29. Apr. 8 - dec.

(j) X + $\frac{x}{5}$ 2 (filtered), old ale. Mar 26. Apr. 8 dec.

(k) X + $\frac{x}{5}$ 2 (unf), old ale. Mar 19. Apr. 8 dec. to [illegible]

6 (l) X + 02 (unf) Mar 16

(m) Z + 1.5 2 (unf), Mar 14, set to dry long

E (12) $X + \frac{X}{10}$ r. $\frac{\text{Mole}}{2}$ Mar. 16

NB. Chrysan contents dissolves celluloid and r. in Nitrobenzene dissolves nitrogen and acet.

E (0) H.C. (9) + K.C. (1) + r. (2). Mar. 30 (felt + excess of neu. alc. distilled off). Examined by Miller Apr. 1. Result: Cuts smooth, but has very fine longitudinal lines and chips: Miller thinks it would do (only when cut very deep).
Apr. 8 Much dec.

(0) H.C. (5) + H.O. (5) + r. (2), neu. alc., felt, distilled off excess. Mar. 30, swell transparent. Recast May 20

Attached

(girl, soft, smooth with micro., nothing, Objection + $\frac{1}{2}$, felt, but possibly contains chips of old. comp. Mar. 31. (which cracked). Apr. 3 found much r. forming a deca on the surface. Apr. 8 Much more dec.

E (2) H.C. + $\frac{1}{2}$ + excess of 90% alc., filtered, distilled, the case tightly sol. in jacketed mould Apr. 2. Mar. 5. Ready. May 2 Pot. Apr. 8 much dec.

(s) Na-nucinol. (25g. + 50 cc. photog. ale.; distilled off 20 cc., but was compelled to add again 10 cc. of photog. ale.), cast in two moulds. Apr. 2. Apr. 3 G. Brought Bro. Apr. 8, on scraping off surface & think excellent.

(t) P (15g.) + 2 (5g) + 56 cc. old ale.; filters, distilled off 18 cc. Apr. 2.

(u) Na-undecylenate (15g) + photog. ale. (56 cc.) + water (5 cc.); necessary to distill off traces of alcohol. ~~Apr~~ Apr 4

Prep. of pure myristic acid:
500 g. of mutton fat saponified with KOH.

(See p. 1 bottom)

Prep. of pure lauric acid: All of bay saponified with caustic potash by boiling for several hours, first with replus condenser, then in open dish; resulting soap decomposed by HCl ~~to~~

(v) Z (2g.) + 2. (5g.) + old ale (44 cc.), decanted off clear, 1/ of old ale [illegible] Apr. 4.
Ans. + next day, 1 day.

(w) Na-palmitate (N g.) + old ale (56.4 cc.)
Cast 2 days, Apr. 5.

(x) H.C. (20 g.) + H_2O_2 + old ale. (150 cc.), filtered, distilled on 70 cc., cast, Apr. 6
Found cracked in the morning Apr. 6.

(y) H.C. + H_2O_2, mixture — cast without old ale, filtered (? many, Apr. 6); was not come off the mould (later).

(z) H.C. + $\frac{H.O.}{10}$ + $\frac{H.C.}{2}$ 2. Cracks.

(z') H.C. + $\frac{H.C}{2}$ 2. Cracks

(z'') H_2O_2 + H_2O 2. Sticks to mould x
Too friable.

(a''') To repeat (h): X (100 g.) + $\frac{X}{5}$ 2. + 70 cc. old ale (1 l. flask half up); filtered cold, distilled, losing about 50 cc. of solution in beginning, then distilled [illegible] 400 cc. + water [illegible] Apr. 13 [illegible] mould. Should come in that it was impossible to make a trial. Apr. 24 little smaller than —

a[iv] X + X2. + 500 cc. Phot. ale. + 80 cc. H_2O, filtered, distilled off 400 cc. (?) in cast iron Carp. Apr. 14. in small moulds. Shrunk down ~~to the it was impossible to remove a piece~~. Apr. 24. ~~[illegible]~~

Wrap.

a[v] X + X2. + 560 cc. H_2O ale. + 300 cc. H_2O, filtered off 400 cc., cast in Carp moulds Apr. 24. [illegible]

a[vi] X + X H.C. + X/5 2. + X/2 2. + cc. phot. ale. + cc. H_2O, filtered distilled off cc., cast in Carp moulds Apr. —

New Series

a[vii] Melting butter twice extracted with boiling alcohol. Residue dried at room temp., filtered molten. Result, white smooth, hard mass, non-homogeneous with glycerin + olive oil. Smale amt. softened by alcoholic extract. Result rough which can be tried further?

Monostearin:

1. Stearic acid (~~40g.~~ 30g.) heated 50 hours with ~~gl~~ glycerin (40 g), at 235° C. (See further)

2. St. acid (30g) heated with glycerin (30g) 50 hours at 235 °C. (See further)

3. St. acid (30g.) heated with glycerin (30g). 36 hours at 220 °C.

Mannitantetrastearate

4. Stearic acid (32g) heated with mannite (20g) 36 hours at 220°C.

Ethyl stearate

Stearic acid (30 g.) heated with absolute alcohol (excess) 48 hours at 220 °C. The preparation lost by accident.

Abietic acid with litharge gives brittle transparent mass (on fusing). Chips out with the knife. It is hard. ∴ no good.

45
90
405 Y01

(1) and (2) of preceding page heated (contain previous purification, except separation of glycerin) with molecular quantity of stearic acid to 180–200° C. in retort & when one mol. H_2O had passed over the liquid in the retort was cast in the form of a cylinder. The substance (impure distearin) was very rough under the microscope & Miller thought it was not worth while making a trial. The cylinder is marked "Distearin".

To repeat (h):

2 parts: $X + \frac{X}{5}$ c. + 4 X nice ale. (i.e. 1000 + 25), filtered, distilled off 1/9 X ale., cast in large moulds.
May 7.

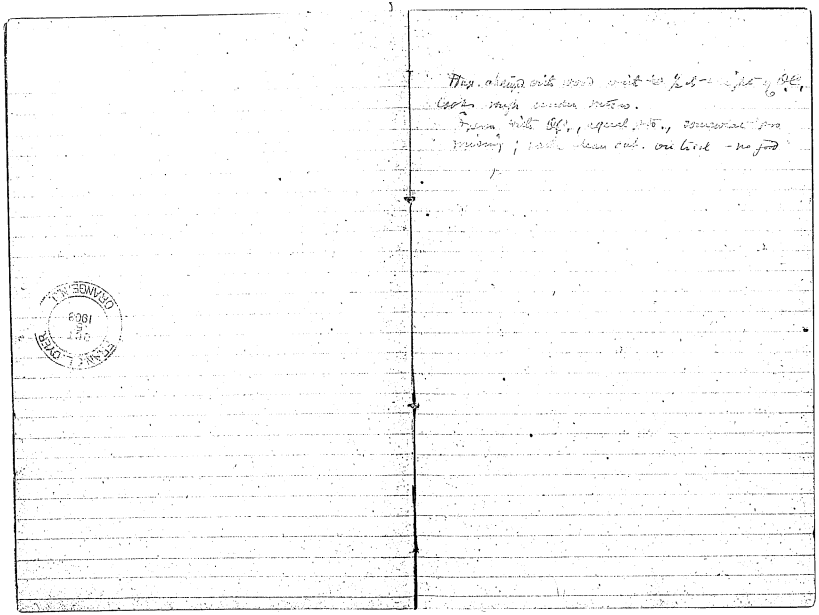
Modified (h):

$X + \frac{X}{5}$ π. C. + $\frac{X}{5}$ c. + 4 X nice ale., filtered, distilled off 1/9 X ale., cast in large moulds.
May 18.

n Nap. + $\frac{15 cc}{100}$ Cm. Nic. — Rough under micro., bounds rough.

n Nap. + .15 Cm. Nic. + .15 cc. O.C. Under micro. better [illegible] sticky. Bounds rough.

Nap. + small amt. Prussian's Transp. Comp. Bounds [illegible]


FRANK L. DYER
ORANGE, N.J.
1963

Карточки сыворотки:

1. Кагоцит [illegible] (5) + [illegible] (3) — [illegible] [illegible] [illegible].

2. Кагоцит [illegible] — [illegible].

3. " " (5) + Карасика (5) — [illegible] [illegible] [illegible].

4. Кагоцит [illegible] (1) + Карасика (5) — [illegible] [illegible] [illegible]?

5. Кагоцит [illegible] — [illegible] [illegible].

6. Кагоцит [illegible] (1) + Карасика (1) [illegible] [illegible] (при [illegible] [illegible], [illegible]). [illegible]?

7. Карасик — [illegible], [illegible] [illegible] [illegible].

8. Карасик [illegible] — [illegible] (см. 7) [illegible] [illegible].

9. Myrtle Hay + Carnauba 5:2, pretty soft, surface not bad. Harden with gum + cast.

10. Bess + Corn 1:1, cracked

11. " " " 2:1, cracked

12. Na-isobutyr + Car 2:5, foam, decompos, cracked. Very hard, pretty good surface

13. CuSt + Car 5:2, good surface, cracked

14. Al + Car 2:5, irregular contraction, cracked

15. CuSt + Car 1:1, badly cracked

16. Car + Al sol (20%) 5:2, irregular contraction, cracked

17 Crude Na-resin + Car 2:5 Cracked

18 FeSt + Car 2:5 Cracked

19 Car + White cryst wax 5:2 cracked presenting good surface

20 Nabutyr + Car 2:5 cracked (foam decomp.)

Mr. Edison's Comments.

21. Monosh + Car 1:1. Much like old comp. Cracked. Good surface.

22 Carn + Myrtle wax 5:2 N.G.

23. Dam + Car 2:5 Cracked

24. Myrtle wax + Car 2:5 Cracked

25. Di-Iterin + Car 2:5. Cracked. Pretty good surface

26 Car + White Cryst wax 2:5 Just cracked & soft.

27 Nabl + Carl + Co Wh. Crystal. hard. N.G.

? 28. Mannitan tetrastearate

? 29 Car + White Cryst Wax 1:1

? 30. Car + Crude Na-ricin (foam)

29. Load, quality good, scratches bad, cut bad, breaks out, no polish

Mr. Edison's comments:

33. Rather rough. Quality fair, not loud, but not smooth. Squeaks

34. Very loud when tracked lighter. If tracked deep, too rough and quality bad.

35. Too rough for use

36. Not very loud, rough

35. Loud, no swell, fairly smooth.

39. When tracked lighter, quality fine. Too little rough. This is good material. Ed.

40. Smooth cut, fairly loud, quality fair. Tends only to chatter.

41. Cut too rough

30. Myrtle wax + Car 1:1 Cracked

? 31. Car + Na-vicin 5:2

? 32. Dam + Car 5:2

? 33 Ail + Car 5:2

? 34. Car + Na-St 1:1

? 35 " + Dam 1:1

? 36. " + Spm 5:1

? 37 " + " 20:1

? 38 Ail + Sp 20:1

? 39 Car + Sp 10:1

? 40 Ail + Sp 10:1 Trip again, feels My opinion — N.G.

? 41 Old Amp + Car 1:1

Mr. Edison's Comments.

42. N. G.

43. Rough cut, not round, no improvement.

? 42 Ail soy

? 43 Car + Ail soy 2:5

? 44 Car + Sp 5:2

45. Car + Crude vicin 1:1, hard does not crack, but difficult cast on account of foam

? 46. Myrtle soap + Car 1:1

47. Two more casts, at Mr. Edison's request, of (46).

48. Car. Cut out

49. Jojoba (? Jojoba) + Car 1:1

No. 11. Good; very little scratch, although record rough. If this could be got in 9 it would be very good.

2. Were recent, very tracks deep, little pinup; record [illegible] good; [illegible] in 9 [illegible] white.

No. 9. Good; chipped out [illegible] scratches.

[Add something to [illegible] high temp.]

No. 14. No chip, polishes without alum, but [illegible] tags scratch [when deep, ∴ jumps].

Good, not chipped. Repeat.

15R. Brass chipped Sept. 20, '03

14 Chipped

New Series. July, 1900

No. 1 Iron 8.

No. 2 " 8.5 no holes.

No. 3 " 8.6 incomplete

No. 4 "

5. PbO + Iron 4%

6. Cu + x 10:3

Cu + PbI_2 20:1

8.

✓ 9. SnS_2 (from acid [illegible], Expt. 4) (75g.) + Pb_2S_3 + S (3:1) (45g.) + Pb_2S (20g.)

10. Cu + PbS (5:2)

✓ 11. 284g. ∑ + 71g. $PbSO_4$ (Pot) + 150g. Na₂S (Leg)

15. (11) 50g + $CuCl_2$ 20g.

13. (11) 50g + Ber. 10g

✓ 14. (11) 50g + Iron 6g

~~15 (11) 60g + Bi 6g~~

16. Ber. of 15 (5–10g.?) + 50g (11) + 20g. Cu + 5g. Cu

17. Chips at 00. temp. At 125° good tone. but scratches, + not as hard as (16).

20. " " " "

19. " Bath " " " Qual. good. stick chipping out. At 125°.

15. Same as (19). At 125° still chipping.

18. Can only be taken at 00. temp. Good, slightly too draggy.

~~17~~. 16. 00. temp. Good, chips out. At 125° good. No scratch + amount to anything. Tracks deep, yet does not chip but jumps out. To be reproduced ~~and~~ tried at 120° with still deeper tracking, to prevent jumping out.

20. At 125°. Good; not quite so good as 16R. Not jumping out so much as 16R.

AR. Too long (Sept 20 '03)

BR. Too hard (" ")

21R. Too hard (Sep 20, '03).

17. (11) + Cer 20:1

18. (11) + mod. Cu. 5:2. The mod. Cu. is Cu + X 5:2.

19. 42g. (11) + 42g. Cu. + 4g. Cer.

20. (9) + 5% Cu.

New Series, to repeat (16). Aug.

A. 426g S + 40g. Na_2CO_3 + 71g. $PbCO_3$ (Hard Break) high mp

B. 426g S + 32g. Na_2CO_3 + 71g. $PbCO_3$ (Burned 15)

D_1 426g S + 34g. Na_2CO_3 + 71g. $PbCO_3$

D_2 852g S + 68g Na_2CO_3 + 142g $PbCO_3$, etc. Same as D_1, yet break a little better + very much like (11)

To repeat (16):

AR. 150g (A) + 60g. Cu. + 12g. Cer.

BR. " (B) + " + "

DR. " (D_1) + " + "

also:

21. 150g (D_1) + 60g. Cu.

22. Crystallized, blow-hole.
25. Crystallized. 24R too low (Sep 20, '03)
28. Crystallized
24R. too low (Sep 20, '03)
26 Horribly chipped

27. Chips; too low

29. too low

crystallized?

22. 100g. (D_2) + 40g. car + 4g. cer.
23. 100g. (D_2) + 40g. car. + 14g. (with some mod. car) (20)
24. 100g (D_2) + 40g. car. + 8g. cer.
25. 100g (D_2) + 40g. car. + 9g. cer (60)
26. 100g. (D_2) + 40g. car. + 28g. mod. car (35)
~~27. Same as (26)~~
27. 100g. (11_1) + 40g. car. + 10g. cer.
28. 100g (11_1) + 40g car. + 9g. cer.
29. ~~[illegible]~~ 240g (11_1) + 18g. mod. car. (contains yellow) (85)

~~To repeat (11)~~
~~[illegible]~~

F. ~~[illegible]~~ (423g $\bar{5}$ + 5g. PbO + 25.3g. Na_2CO_3)
low heat. Product crystallized

1136 − 70
426 − x

426
73
1278
2982
310978
p378
426
= 27.4

30. A little too hot

1136
426
134
28 34
3408
426
8071 4
8099 40
= 70.9

1136
426
134
28 34
3408
426
8071 4
8099 40
= 70.9

8 5 4
1 3 4
1136

142
47
189

1136
426
134
28 34
3408
426
8071 4
8099 40
= 70.9

106 6
1136
= 40

32. Horribly chippy – N.G.

33. Chips

34. Fractures, pinings

G = 1136 S̄ + 189 PbCO₃ + 73 Na₂CO₃
(= 426 S̄ + 70.9 PbCO₃ + 27.4 Na₂CO₃)

35. Chips

E.R. 568g S̄ + 125g ~~[illegible]~~ + ~~[illegible]~~

30. ER (75g) + Cu (75g) + Cu (24g)
heated, [illegible] adds Na₂CO₃ (5g).

31. F (100g) + Cu (100g) + Cu (30g),
heated [illegible] 3g. Shut, but the
[illegible] ← [illegible] all at
bottom of lid.

32. (11½) 100g + Cu (40g) + Cu (15g)

33 (11½) 100g + Cu (40g) + Cu (20g)

34 11½ (100g) + Cu (40g) + Cu (10g)

G 85½ S̄ + 142 PbCO₃ + 68 Na₂CO₃
+ (284 S̄ + 47 PbCO₃)
+ 5g Na₂CO₃

35. G (150g).

36 R. Too hard (Sep 20, '03)
37 R. Too hard (Sep 20, '03)

38 R. Too hard (Sep 20, '03); Crying

39. Horribly chipped

41 = Big ball OK. Can be something in it.

42. Too hard (Sept 20, '03)

43. Fair too hard

36. 150 g G + 15 g Cu (10%)

37 125 G + 30 Cu (16 2/3%)

38 125 G + 30 Cu

39 100 G + 30 Cu (30%)

40 100 G + 40 Cu (40%)

41. 50 G + 20 Mg O

42 G (~~130~~ 120) + Cu (6.0) (5%)

43. G (~~130~~ 120) + Cu (12) (10%)

44. ~~G (100) + G (170)~~ G (~~170~~ 110) + Cu (~~15~~ 16.5) (15%)

45 G (100) + Cu (40) + Cu (10)

46 too low

H. 227g. $\bar{S}$ + 38g $PbCO_3$ + 18g K_2CO_3
(Bad brick)

46. 100g(H) + 40g(Cu) + 10g(Cu)

~~47 100g(H) +~~

47 50g(H) + 20g(Cu)

48 60g(H) + 10g(Cu)

49. Rough grown, [illegible], scratches only lines
more than pale white
50 Horribly chipped, yet big bull seen in [illegible]

I. $\bar{S}(200) + \bar{O}(100) + PbO(126)$
(crack not ring [illegible])
49. $I(150) + \bar{S}(8) + \bar{O}(4)$
50. $I(150g)$

J. $\bar{S}(200g) + \bar{O}(50) + PbO(105g)$

K. $\bar{S}(200) + \bar{O}(100) + PbO(113.5)$
51. $K(150g)$
K white Cry. with Cu or Cu+Cu. ng.
L. $\bar{S}(200) + \bar{O}(100) + PbO(94.5)$
ng.

52R. Too hard (Hy 20)
53. Jumps, rather hard, good surface; scratches
shade more than regular, crackles.
54. Fairly smooth surface than regular.
55R. Too hard (Hy 20)
56R. Something in it, crackles; scratches about
same as 55, white, possibly lens.
57. Too hard, jumps out.
58. Horribly chippy
59 " "

61R. Too hard (Hy 20).

52. 120g (11) + 6g (Cu)
53. 120g (11) + 12g (bis)
54. 110g (11) + 16.5g (car)
55 120g (11) + 8.5g (car)
56 120g (11) + 9.5 (car)
57 150g (11) + 15g (car)
58 125g (11) + 20g (car)
59 125g (11) + 30g (car)
60 100g (11) + 30g (car)
61 75g (11) + 20g (car) + 10 (Bars)
62 ~~Pb S + 25~~ (from litharge)

M: 170 ($\bar{S}$) + 37.5 ($PbSO_4$) +
35.5 (Mnt) + 20 (Gren)

7

66. Chiefly horizontally (Feps 20)

~~66. [illegible]~~

67. Jumps out, but some stuff, rough [illegible] (Cu) (Chiefly Fesp 20)

69. Large cut, tons, well, good, [illegible] more than [illegible]

70. Little crystals, but more than white, no chiefly [illegible]

Jumps out. Chiefly slightly (Feps 20)

72. Crystalline, N.G.

73. Little than white best yet (Something little more than [illegible] Feps 20)

74. Much cut with [illegible] (Something more than [illegible] Feps 20)

Cast in [illegible] 75 FF No 1., No. 2, No 3., filters twice through cloth, once through filt. paper. (Something more than [illegible] Feps 20)

75 F No 4, No 5 filters. twice through cloth, once through filt. paper, once through Bamber paper. 75 No. 5 too low.

76 Crypt.

77 Crypt. $\alpha = 100\bar{5} + 4.3\ \bar{6}\ 04$

78 "

79

80. Crypt.

81. Crypt.

82. Crypt.

83 "

63	150 g (K)	+ 15 g.	(Car)	bracked
64	125 g (K)	+ 20 g	(Car)	"
65	125 g (K)	+ 30 g	(Car)	"
66	150 g (S)			
67	120 g (V)	+ 6 g.	(Cu)	
68	120 g (V)	+ 12 g.	(Cu)	
69	120 g (V)	+ 16.5 g	(Cu)	slightly bracked
70	125 g (11)	+ 12 g	(L)	
71	125 g (11)	+ 25 g	(L)	
72	100 g (11)	+ 40 g	(L)	
73	(100 g)	acc. Pb. St (from Lit)	+ 1.4	
74	(100 g)	" "	+1.8	"
75	(100 g)	" "	+ 0.5	"
B 73	(130 g)	" "	+1.3	"
76	37.5 g (11)	+ 30 g	(L)	
77	37.5 g (11)	+ 37.5 g	(L)	
78	25 g (11)	+ 50 g	(L)	
79	12.5 g (11)	+ 62.5 g	(L)	
80	62.5 g (11)	+ 6 g (L)	+ 7 g	(Cu)
81	62.5 g (11)	+ 12.5 g (L)	+ 7.5	(Cu)
82	62.5 g (11)	+ 20 g (L)	+ 7 g	(Cu)
83	37.5 g (11)	+ 30 g (L)	+ 7 g	(Cu)

84. Crypt

85

86. Crypt

87. N.G.

88. S. [illegible], [illegible], n.g.

89. [illegible], [illegible] ml, n.g. Chippy (Sept. 20)

90. [illegible], good.

91. N.G.

92. N.G.

93. [illegible] [illegible], [illegible] out, n.g.

94. Crypt.

96. [illegible] stay good

97. Repeat. Smooth green, jumps out, wears [illegible] as good as ng. Smoothest (Sept. 20)

98. Crypt out, n.g.

100 Crypt.

101. Good Repeat. No jump, no chip, but big ball chip not bad, scratches more than ng. Sept. 20.

103. N.G.

104. Repeat.

105. Not bad; can track deep. Fair, scratch shell more than ng. Good. (Sept. 20)

106. N.G.

$N = 500\ \bar{S} + 250\ PbCl_2$

84	37.5 g (N)	37.5 g (L)	+ 7.5 (Cer)	
85	25 g (N)	50 g (L)	+ 7.5 (Cer)	
86	12.5 g (N)	62.5 g (L)	+ 7.5 (Cer)	
87	62.5 g (N)	6 g (L)		
88	62.5 g (N)	12.5 g (L)		
89	50 g (N)	20 g (L)		
90	37.5 g (N)	30 g (L)		
91	37.5 g (N)	37.5 g (L)		
92	25 g (N)	50 g (L)		
93	12.5 g (N)	62.5 g (L)		
94	62.5 g (N)	6 g (L)	7 g (Cer)	
95	62.5 g (N)	12.5 g (L)	7.5 g (Cer)	
96	62.5 g (N)	20 g (L)	7 g (Cer)	
97	37.5 g (N)	30 g (L)	7 g (Cer)	
98	37.5 g (N)	37.5 g (L)	7.5 g (Cer)	
99	25 g (N)	50 g (L)	7.5 g (Cer)	
100	12.5 g (N)	62.5 g (L)	7.5 g (Cer)	
101	5 (2)	+ $PbCl_2$ (1)	(gray)	
102	(101) + Cer (50%)			
103	"	" 10		
104	"	" 15		
105	"	" 20		
106	"	" 25		

551 551

107. N. G.

$O = (4\bar{S} + 1\,PbCO_3) + 1\%\,Lik$

108. Something in it (Aug 20 '03)

110. Appears smooth as oil; finger out.

111 Okay for something in it

113. Filtered twice through cloth, once through f.p., twice through bamboo gauze; mixed with hot, liquid 140°

114 Tracks light; finger out.

115. Big bead of tracks very deep; maybe liquid surface other sq. inch; no chip; some chipping on it, scratches little more than sq.

116. Too low

107. $5(50) + Lik(.5) + Ce(5)$

108. $60g\,(O) + 3g\,(Ce)$

109. $60g\,(O) + 6g\,(Ce)$

110. $50g\,(O) + 7.5g\,(Ce)$

111. $50g\,(O) + 10g\,(Ce)$

112. $50g\,(O) + 12.5g\,(Ce)$

113. $100\bar{S} + 2\,Lik$

$P = 500\bar{S} + 12.5\,PbCO_3$

$Q = 568\bar{S} + 133.5\,PbCO_3$

$R = 568\bar{S} + 100\,PbCO_3$

$S = 500\bar{S} + 62.5\,PbCO_3$

$T = 500\bar{S} + 98\,PbCO_3$

$U = 500\bar{S} + 30\,PbCO_3$

114. P.

115. $P(70) + Ce(3.5)$

116. $P(70) + Ce(7)$

117. $P(70) + Ce(14)$

$PL = 240P + 1.2\,Lik$

118. $PL(70) + Ce(3.5)$

119. $PL(70) + Ce(7)$

120. $PL(70) + Ce(14)$

121. Waves coarser than xy. Jumps
122 N.G.
123. N.G; tears

124 Matted wave marks finer, lighter track, j'mps.
125. Jumps, Rougher grooves than xy -
126. Rough grooves; jumped out.
127. Rougher than xy-, jumps, is hilly & tracks lighter than xy-
128. N.G.
129. Wave marks as fine as xy, tracks lighter, jumps more
130 Crust. Grooves rougher than xy. xy lighter jump

132. Waves not so smooth as xy, jumps out.
133. Grooves rougher than xy., not jumped out; Fro tracks deeper
135. No jumps, no chips, on edge of jumping tracks lighter than 134
134. Crystalline

121 Q (10g) + Cer (3.5g)
122 Q (70g) + Cer (7g)
123 Q (70g) + Cer (14g)

Q.L. = 300 Q + 15 L.

124 Q.L. (70g) + Cer (3.5g)
125 " (70g) + " (7g)
126 " (70g) + " (14g)
127 Q.L. alone

128 R. alone
129 R (70g) + Cer (3.5g)
130 R (70g) + " (7g)
131 R (70g) + " (14g)

R.L = 300 R + 1.5 L.

132 R.L (70g) + Cer (3.5g)
133 " (70g) + " (7g)
134 " (70g) + " (14g)
135 R.L alone.

136. Reg + 1% X.
137 " + 2% X
138 " + 5% X
139 " +10% X
140 S alone
141 S (70g) + Cer (3.5g)
142 S (70g) + Cer (7g)
143 S (70g) + Cer (14g)
S.L. = (225g) S + L (1.1g)
144 S.L. (70g) Cer (7g)
145 S.L. (70g) Cer (14g)
146 S.L. (70g)

147 T alone
148 T (70g) + Cer (3.5g)
149 T (70g) + Cer (7g)
150 T (70g) + Cer (14g)
T.L. = (270g) T + (1.4g) L.
151 T.L. (70g) + Cer (3.5g)
152 T.L. (70g) + Cer (7g)
153 T.L. (70g) + Cer (14g)
154 T.L. alone

U = 5 ro

Myr + Ables (2 g + 10 g) — N.G
(induction)
[illegible] + [illegible] N.G.

159 bracketed N. G.

155 – U (70 g) + Hlar (28 g)
156 U (70 g) + Bus (28 g)
157 U (70 g) + Myr (28 g)
158 U (40 g) + W Car (40 g)
159 U (70 g) + Car (7 g)
160 U (50 g) + L (y) + W Car (30 g)

I	426 $\bar{S}$ +	60 $\overset{+}{Pb}$ +	27.5 $\overset{+}{Na}$	—		
II	426 $\bar{S}$ +	50 $\overset{+}{Pb}$ +	27.5 $\overset{+}{Na}$			
III	426 $\bar{S}$ +	40 $\overset{+}{Pb}$ +	27.5 $\overset{+}{Na}$			
IV	426 $\bar{S}$ +	30 $\overset{+}{Pb}$ +	27.5 $\overset{+}{Na}$			NG Cand.
V	426 $\bar{S}$ +	20 $\overset{+}{Pb}$ +	27.5 $\overset{+}{Na}$			
VI	426 $\bar{S}$ +	10 $\overset{+}{Pb}$ +	27.5 $\overset{+}{Na}$	—		
VII	426 $\bar{S}$ +	70 $\overset{+}{Pb}$ +	20	$\overset{+}{Na}$		
VIII	426 $\bar{S}$ +	70 $\overset{+}{Pb}$ +	15	$\overset{+}{Na}$		NG Cand.
IX	426 $\bar{S}$ +	70 $\overset{+}{Pb}$ +	10	$\overset{+}{Na}$		
X	426 $\bar{S}$ +	70 $\overset{+}{Pb}$ +	5	Na	—	

161 75 (I)
162 70 (I) + 3.5 Cu
163 70 (I) + 7 Cu
164 70 (I) + 14 Cu
165 70 (I) + 7 Pbs
166 70 (I) + 14 Pbs

167 70(T)
168 70(T) + 3.5 Cu
169 70(T) + 7 Cu
170 70(T) + 14 Cu
171 70(T) + 7 Pcu
172 70(T) + 14 Pcu
173 70(Σ)
174 70(Σ) + 3.5 Cu
175 70(Σ) + 7 Cu
176 70(Σ) + 14 Cu
177 70(Σ) + 7 Pcu
178 70(Σ) + 14 Pcu
✓179 56 Σ + 5.3 Nz (4?)
✓180 100(η 179) + 1(h)
✓181 150(η 179) + 3(h)
✓182 150(η 179) + 6(h)
✓183 [illegible]
✓184 100 Σ + 7(h)
✓185 100 Σ + 8.5(h) (not quite all Cu has up)
✓186 100 Σ + 8.5(h) (complete)
✓187 100 Σ + 12(h)

(XVII)

12
70
210

90

XXI. 758.8 $\bar{S}$ + 310.5 $PbCO_3$ + 11.7 K_2CO_3

XXII. 780.5 $\bar{S}$ + 27 $PbCO_3$ + 23.5 K_2CO_3

XXIII. 803.5 $\bar{S}$ + 241.5 " + 35 "

XXIV. 826.5 $\bar{S}$ + (207 " + 47 K_2CO_3)

XXV. 849.5 + 172.5 " + 58.5 "

XXVI. 871.5 + (138 " + 70 "

XXVII. 894.5 $\bar{S}$ + (103.5 " + 82 "

XXVIII. 917.4 $\bar{S}$ + 69 " + 93.5 "

XXIX. 940 $\bar{S}$ + (34.5 " + 105.5 "

XXI. ~~Nothing~~ All pretty bad (XXI + 100 % $\bar{S}$ best, called XXI A.

XXIII (+10 % $\bar{S}$), (+15 % $\bar{S}$), (+20 % $\bar{S}$) good, much better than XXIII alone; XXIII + 10 % $\bar{S}$ seems best, — called XXIII A.

XXIV (+10 % $\bar{S}$) (+20 % $\bar{S}$) (+30 % $\bar{S}$) pretty good, (+20 % $\bar{S}$) best, called XXIV A. (But except ??)

XXV (+20 % $\bar{S}$) best; called XXV A. return in C.

XXVI (+10 % $\bar{S}$ tolerable " XXVI A. " "

XXVII (+5 % $\bar{S}$), (+10 % $\bar{S}$) tolerably good; (+10 % $\bar{S}$) much better, called XXVII A

XXVIII. All pretty poor. (XXVIII + 10 % $\bar{S}$) best, called XXVIII A.

XXIX. All pretty poor. XXIX used above.

(XVII initially mixp. of $\bar{S}$ - mg.)

XI 757.8 $\bar{S}$ + 310.5 $PbCO_3$ + 9 Na_2CO_3

XII 780.6 $\bar{S}$ + 276 " + 18 "

XIII 803.4 $\bar{S}$ + 241.5 " + 27 "

XIV 826.2 $\bar{S}$ + 207 " + 36 "

XV 849 $\bar{S}$ + 172.5 " + 45 "

XVI 871.8 $\bar{S}$ + 138 " + 54 "

XVII 894.5 $\bar{S}$ + 103.5 " + 63 "

XVIII 917.4 $\bar{S}$ + 69 " + 72 "

XIX 940.2 $\bar{S}$ + 34.5 " + 81 "

XX 1704 $\bar{S}$ + 159 N_2^+

188 70 (XI) + S (3.5)

189 70 (XI) + S (10) (7)

190 65 (XI) + S (~~20~~) (11)

191 70 (XI) + Cu (3.5)

192 70 (XI) + Cu (7)

193 65 (XI) + Cu (10.0)

194 65 (XI) + Cu (6.5) + $\bar{S}$ (6.5)

195 70 (XI) + Spri (7)

196 65 (XI) + Spri (10)

197 70 (XI) + Pres (7)

198 70 (XI) + M.W. (7)

199 70 (XI) + Chin (7)

200 65 (XI) + Chin (10.5)

201 70 (XIII) + 3.5 (S)
202 70 (XIII) + 7 (S)
203 65 (XIII) + 11 (S)
204 70 (XIII) + 3.5 (Cu)
205 70 (XIII) + 7 (Cu)
206 65 (XIII) + 10 (Cu)
207 [illegible] (Cu) 6.5 (S)
208 70 (XIII) + 7 [illegible]
209 65 (XIII) + 10 (Cu)
210 70 (XIII) + 7 (Bus)
211 70 (XIII) + 7 [illegible]
212 70 (XIII) + 7 (Cu)
213 65 (XIII) + 10 (Chin)
214 200 (S) + 14 (Cl) + 16.5 Mag (hot top)
215 70 (XIII) + 3.5 (S)
216 70 (XIII) + 7 (S)
217 65 (XIII) + 11 (S)
218 70 (XIII) + 3.5 (Cu)
219 70 (XIII) + 7 (Cu)
220 65 (XIII) + 10 (Cu)
224 65 (XIII) + 6.5 (S) + 6.5 (Cu)
222 70 (XIII) + 7 (Yun)
223 65 (XIII) + 10 (Yun)
224 70 (XIII) + 7 (Bus)
225 70 (XIII) + 7 (MW)

226 70 (XIII) + 7 (Cer)
227 65 (XIII) + 10 (Cer)
228 70 (XIV) + 3.5 (S)
229 70 (XIV) + 7 (S)
230 65 (XIV) + 11 (S)
231 70 (XIV) + 3.5 (Cer)
232 70 (XIV) + 7 (Cer)
233 65 (XIV) + 10 (Cer)
234 65 (XIV) + 6.5 (S) + 6.5 (Cer)
235 70 (XIV) + 7 (Spec)
236 65 (XIV) + 10 (Spec)
237 70 (XV) + 7 (Cer)
238 70 (XV) + 7 (M.W.)
239 70 (XV) + 7 (Cer)
240 65 (XV) + 10 (Cer)
241 70 (XV) + 3.5 (S) =
242 70 (XV) + 7 (S) =
243 65 (XV) + 11 (S) =
244 70 (XV) + 3.5 (Cer) =
245 70 (XV) + 7 (Cer) =
246 65 (XV) + 10 (Cer) =
247 65 (XV) + 6.5 (S) 6.5 (Cer) =
248 70 (XV) + 7 (Spec) =
249 65 (XV) + 10 (Spec) =
250 70 (XV) + 7 (Bass)

251 70 (XVI) + 7 (Ma.)
252 70 (XVI) + 7 (Ma.)
253 65 (XVI) + 10 (Ma.)
254 70 (XVI) + 3.5 (S)
255 70 (XVI) + 7 (S)
256 65 (XVI) + 11 (S)
257 70 (XVI) + 3.5 (Cir)
258 70 (XVI) + 7 (Cir)
259 65 (XVI) + 10 (Cir)
260 65 (XVI) + 6.5 (S) + 6.5 (Cir)
261 70 (XVI) + 7 (Figure)
262 65 (XVI) + 10 (Figure)
263 70 (XVI) + 7 (Bacc)
264 70 (XVI) + 7 (Ba. Ba.)
265 70 (XVI) + 7 (Cir)
266 65 (XVI) + 10 (Cir)
267 70 (XIX) + 3.5 (S)
268 70 (XIX) + 7 (S)
269 65 (XIX) + 11 (S)
270 70 (XIX) + 3.5 (Cir)
271 70 (XIX) + 7 (Cir)
272 65 (XIX) + 10 (Cir)
273 65 (XIX) + 6.5 (S) + 6.5 (Cir)
274 70 (XIX) + 7 (Figure)
275 65 (XIX) + 10 (Figure)

276 70 IX + 7 [illegible]
277 [illegible] IX [illegible]
278 [illegible] IX 7
279 [illegible] IX
280 70 (XXII) + 3.5 (S)
281 70 (XXII) + 7 (S) Chippy Blow Holes
282 65 (XXII) + 11 (S) Chippy Blow Holes
283 70 (XXII) + 3.5 (Cu) " " "
284 70 (XXII) + 7 (Cu) N.G. bryst.
285 65 (XXII) + 10 (Cu) N.G. bryst.
286 65 (XXII) + 6.5 (S) + 6.5 (Cu)
287 70 (XXII) + 7 (Spri) N.G. crystalized
288 65 (XXII) + 10 (Spri) Ditto
289 70 (XXII) + 7 (Bero)
290 70 (XXII) + 7 (Mg. Ol.)
291 70 (XXII) + 7 (Chin)
292 65 (XXII) + 10 (Chin)
~~293 70 (XXIII) + 3.5 (S)~~ 293 70 (XXIII) + 7 (S)
~~294 70 (XXIII) + 7 (S)~~
~~295 65 (XXIII) + 11 (S)~~
A 294 70 (XXIII) + 3.5 (Cu)
A 295 70 (XXIII) + 7 (Cu)
A 296 65 (XXIII) + 10 (Cu)
A 297 65 (XXIII) + 6.5 (S) 6.5 (Cu)
A 298 70 (XXIII) + 7 Spri

CloL. is coconut oil saponif., acids neutralized with pure KOH according to Allen ("magnesium for KOH"). [100 g acids + 5% KOH].

(CP): 100 g acids from coconut oil, heated at 230°C, losing 20 g. in weight.

298 65 (XXIA) + 10 (Sper)
299 70 (XXIA) + 7 (Sper)
300 70 (XXIA) + 7 (Sper)
301 70 (XXIA) + 7 (Sper)
302 65 (XXIA) + 10 (Sper)
304 70 (XXIA) + 7 (S)
305 70 (XXIA) + 3.5 (Cer)
306 70 (XXIA) + 7 (Cer)
307 65 (XXIA) + 10 (Cer)
308 65 (XXIA) + 6.5 (S) + 6.5 (Cer)
309 70 (XXIA) + 7 (Sper)
310 65 (XXIA) + 10 (Sper)
311 70 (XXIA) + 7 (Sper)
312 70 (XXIA) + 7 (Ch.St.)
313 70 (XXIA) + 7 (Sper)
314 65 (XXIA) + 10 (Sper)
315 135 CloL + 10 (Cer) + 20 (11)
316 80 g (CP) + 40 g CloO (CP)
317 70 (XXID) + 7 (S)
318 70 (XXID) + 3.5 (Cer)
319 70 (XXID) + 7 (Cer)
320 65 (XXID) + 10 (Cer)
321 65 (XXID) + 6.5 (Cer) + 6.5 (S)
322 70 (XXID) + 7 (Sper)
323 65 (XXID) + 10 (Sper)

~~324~~ 70 (XXVA) + 7 (Bus)
~~325~~ 70 (XXVA) + 7 (M. Of.)
~~326~~ ~~70 (XXVA) + 7 (Chim)~~
~~327~~ ~~65 (XXVA) + 10 (Chim)~~
~~328~~
326 63.5 (XXIV) + 6.5 (5) + 7 (Chim)
327 59 (XXIV) + 6 (5) + 10 (Chim)
328 63.5 (XXIV) + 6.5 (5) + 7 (Cir)
329 ~~[illegible]~~ 59 (XXIV) + 6 (5) + 10 (Cir)
330 100.5 + 21 (160 (Cir)) + 1 (Chim)
331 (XXVA) 70 + 7 (5)
332 (XXVA) 70 + 3.5 (Cir)
333 (XXVA) 70 + 7 (Cir)
334 (XXVA) 65 + 10 (Cir)
335 (XXVA) 65 + 6.5 (Cir) 6.5 (5)
336 (XXVA) 70 + 7 (Spir)
337 (XXVA) 65 + 10 (Spir)
338 (XXVA) 70 + 7 (Bus)
339 (XXVA) 70 + 7 (M. Of.)
340 (XXVA) 70 + 7 (Chim)
341 (XXVA) 65 + 10 (Chim)
342 100 (acid from coconut oil, Brown-Ty. 160°) + 45 (160 cp.)

343 (XXVIA) 70 + (S) 7
344 (XXVI A) 70 (Cer) 3.5
345 (XXVI A) 70 + (Cer) 7
346 (XXVI A) 65 + (Cer) 10
347 (XXVI A) 65 + (Cer) 6.5 + (S) 6.5
348 (XXVI A) 70 + (Spuri) 7
349 (XXVI A) 65 + (Spuri) 10
350 (XXVI A) 70 + (Bero) 7
351 (XXVI A) 70 + (M. S.) 7
352 (XXVI A) 70 + (Chim) 7
353 (XXVI A) 65 + (Chim) 10
354 (XXVIIA) 70 + (S) 7
355 (XXVIIA) 70 + (Cer) 3.5
356 (XXVIIA) 70 + (Cer) 7.
357 (XXVIIA) 65 + (Cer) 10
358 (XXVIIA) 65 + (Cer) 6.5 + (S) 6.5
359 (XXVIIA) 70 + (Spuri) 7
360 (XXVIIA) 65 + (Spuri) 10
361 (XXVIIA) 70 + (Bero) 7
362 (XXVIIA) 70 + (M. S.) 7
363 (XXVIIA) 70 + (Chim) 7
364 (XXVIIA) 65 + (Chim) 10

365 (XXVIII A) 70 + (S̄) 7
366 (XXVIII A) 70 + (Cer) 3.5
367 (XXVIII A) 70 + (Cer) 7
368 (XXVIII A) 65 + (Cer) 10
369 (XXVIII A) 65 + (S̄) 6.5 + (Cer) 6.5
370 (XXVIII A) 70 + (Sferi) 7
371 (XXVIII A) 65 + (Sferi) 10
372 (XXVIII A) 70 + (Bus) 7
373 (XXVIII A) 70 + (Rh. Pf.) 7
374 (XXVIII A) 70 + (Rhin) 7
375 (XXVIII A) 65 + (Rhin) 10
376 acids from cocoanut oil (80 g), heated at 150° + 180 cp. (32 g.)
377 German Way, cited as Mr. Cairns requested.
378 (XXIX) 70 + (S̄) 7
379 (XXIX) 70 + (Cer) 3.5
380 (XXIX) 70 + (Cer) 7
381 (XXIX) 65 + (Cer) 10
382 (XXIX) 65 + (S̄) 6.5 + (Cer) 6.5
383 (XXIX) 70 + (Sferi) 7
384 (XXIX) 65 + (Sferi) 10
385 (XXIX) 70 + (Bus) 7
386 (XXIX) 70 + (Rh. Pf.) 7
387 (XXIX) 70 + (Rhin) 7
388 (XXIX) 65 + (Rhin) 10

XXX	955 $\bar{S}$	+	74.5 Li	+	34.5	$Pb(BO_3)$
XXXI	930 $\bar{S}$	+	66 "	+	69	"
XXXII	905.5 "	+	58 "	+	103.5	"
XXXIII	881 "	+	50 "	+	138	"
XXXIV	856 "	+	41.5 "	+	172.5	"
XXXV	831 "	+	33 "	+	207	"
XXXVI	806.5 "	+	25 "	+	241.5	"
XXXVII	781.5 "	+	16.5 "	+	276	"
XXXVIII	757 "	+	8.5 "	+	310.5	"

Results of $\bar{S}$ Li with the above (B stands for base):

(a) $20B + 1\bar{S}$, (b) $18B + 2\bar{S}$, (c) $20B + 4\bar{S}$,
(d) $14B + 6\bar{S}$, (e) $12B + 8\bar{S}$, (f) $11.5B + 8.5\bar{S}$,
(g) $10B + 10\bar{S}$, (h) $8B + 12\bar{S}$, (i) $6B + 14\bar{S}$,
(j) $2B + 18\bar{S}$, (k) $1B + 20\bar{S}$.

XXX alone: structure pretty fine; cryst. in center. Mp.

XXX a grain very fine, no crystallization on butter plate. Mp.

XXX b. Grain not so fine as preceding; cryst. on butter plate. Mp.

XXX c. N.G.

XXX d. N.G. Prolonged heating in Pelton plate causes no improvement.

XXX e. N.G.

XXX f. N.G.

XXX g. N.G.

XXX h. N.G.

XXX i. N.G.

XXX j. Uniform, smaller crystals than 5, dry, & soft cut on the flat surface.

XXX k. Similar to preceding.

XXXI, alone. Grain quite good, mp.

XXXI a. Grain about same as preceding, but ~~so~~ some crystl. in centre, mp.

XXXI b. Much crystallization, mp.

XXXI c. N.G.

XXXI d. N.G.

XXXI e. N.G.
XXXI f. N.G.
XXXI g. N.G.
XXXI h. N.G.
XXXI i. Almost uniform crystallization
XXXI j. Unif. cryst.; smaller crystals
Better S.
XXXI K. Very similar to Preceding.

XXXII, alone. N.G.
XXXII a. Pretty bad crystallization; grain w. chilled surface not very good
XXXII b. N.G.
XXXII c. N.G.
XXXII d. N.G.
XXXII e. N.G.
XXXII f. N.G.
XXXII g. Almost uniform; cryst.
XXXII h. Similar to Preceding (better)
XXXII i. Still better

XXXII j. Uniform, crystalline
XXXII K. Same -

XXXIII alone. Excellent - Mgs
XXXIII a. Same. Mgs
" b Pretty good Mgs
" c Crypt. in center. Good on bottom chilled surface -
" d N. G.
" e N. G.
" f N. G.
" g N. G.
" h Crypt., almost uniform
" i. Same -
" j Crypt. uniform -
" K Same.

XXXIV, alone: Rough grain. up

XXXIV a. Much better grain up.

" b Very good grain up.

" c ~~A. C.~~ Much cryst. up.

" d Much better, no cryst.

" e Same.

" f Uniform, cryst?

" g " fine crystals

" h " larger "

" i Same

" j Same

" k Same

XXXV, above - Very rough grain

" a Slightly better, bit crypt in clusters

" b Very rough grain.

" c N. G

" d Very much better; very slight crypt.

" e Same; not crypt.

" f Same

" g Pretty good

" h. ~~Larger, much worse~~ rippling

" i Much worse; crypt.

" j Unif. crypt.

" K Same.

XXXVI, alum: N. G.

" a Very rough grain

" b Rough grain

" c Somewhat better

" d Excellent grain

" e Good grain (striated)

" f Same

" g Same

" h Considerably striated

" i Rough grain

" j Uniformly cryst.

" k Same

XXXVII, above: Pretty rough grain

" a Somewhat better

" b Pretty good

" c A little better

" d Same

" e Quite good

" f Same

" g Striated

" h Rougher

" i Striated, but excellent in chillied part.

" j Crypt.

" K N. G.

XXXVIII, Alone: N. G.

" a Same

" b Very Rough grain

" c Better

" d Still better, but striated

" e Rough

" f Same

" g Cryst. in centre, striated but pretty good in chilled parts

" h Almost same

" i Striated, cryst. (chilled surface?)

" j Cryst.

" k Cryst.

389 (XXXa) 70

390 (XXXa) 70+ (Cer) 3.5

391 (XXXa) 70+ (Cer) 7

392 (XXXa) 65+ (Cer) 10

393 (XXXa) 65+ (Cer) 6.5+(S) 6.5

394 XXXa 70+ (Spheri) 7

395 XXXa 65+ (Spheri) 10

396 XXXa 70+ (Bacs) 7

397 XXXa) 70+ (M.Sc.) 7

398 (XXXa) 70+ (Chim) 7

399 (XXXa) 65+ (Chim) 10

400 (XXXIa) 70

401 (XXXIa) 70+ (Cer) 3.5

402 (XXXIa) 70+ (Cer) 7

403 (XXXIa) 65+ (Cer) 10

404 (XXXIa) 65+ (Cer) 6.5+(S) 6.5

405 (XXXIa) 70+ (Spheri) 7

406 (XXXIa) 65+ (Spheri) 10

407 (XXXIa) 70+ (Bacs) 7

408 (XXXIa) 70+ (M.Sc.) 7

409 (XXXIa) 70+ (Chim) 7

410 (XXXIa) 65+ (Chim) 10

411 (XXXIa) 70+ (Bacs) 7

412 (XXXII a) 70

413 (XXXII a) 70 + (Per) 3.5

414 (XXXII a) 70 + (Per) 7

415 (XXXII a) 65 + (Per) 10

416 (XXXII a) 65 + (Per) 6.5 (5) 6.5

417 (XXXII a) 70 + (Spec) 7

418 (XXXII a) 65 + (Spec) 10

419 (XXXII a) 70 + (Bus) 7

420 (XXXII a) 70 + (Ma. Ed.) 7

421 (XXXII a) 70 + (Chem) 7

422 (XXXII a) 65 + (Chem) 10

423 (XXXII a) 70 + (Car) 7

412 (XXXIII a) 70

413 (XXXIII a) 70 + Car 3.5

414 (XXXIII a) 70 + Car 7

415 (XXXIII a) 65 + Car 10

6 (XXXIII a) 65 + Car 6.5 + (5) 6.5

7 (XXXIII a) 70 + Spec 7

8 (XXXIII a) 65 + Spec 10

9 (XXXIII a) 70 + Bus 7

420 (XXXIII a) 70 + Ma. Ed. 7

421 (XXXIII a) 70 + Chem 7

422 (XXXIII a) 65 + Chem 10

423 (XXXIII a) 70 + Car 7

Basic B_0 = 4500 B + 945 P.O.

" B_1 = mm B_0 + 5 Lr O H.

" B_2 = " " + 10 Lr O H.

" B_3 = " " + 9 Lr O.Bf.

" B_4 = " " + 8 Lr O.Bf.

" B_5 = " " + 8 Lr O.Bf.

424	(B_0)	70		
425	(B_0)	70 +	1	ricinoleic acid
426	(B_0)	70 +	3	"
427	(B_0)	70 +	1	par. oil
428	(B_0)	70 +	3	" "
429	(B_0)	70 +	1	pyridine
430	(B_0)	70 +	3	"
431	(B_0)	65 +	6.5	M. O.
432	(B_0)	60 +	12	" "
433	(B_0)	50 +	20	" "
434	(B_0)	60 +	10	Cres
435	(B_0)	63 +	7	Lauric Acid
436	(B_1)	70		
437	(B_1)	70 +	1	ricinoleic
438	(B_1)	70 +	3	"
439	(B_1)	70 +	1	par. oil
440	(B_1)	70 +	3	" "
441	(B_1)	70 +	1	pyridine
442	(B_1)	70 +	3	"
443	(B_1)	65 +	6.5	M. O.
444	(B_1)	60 +	12	" "
445	(B_1)	50 +	20	" "
446	(B_1)	70 +	1	Ster
447	(B_1)	70 +	3	"
448	(B_1)	65 +	5	Cres

#449 (B_1) 60 + 10 Cera
450 (B_1) 50 + 20 "
~~(B_1) 63 + 7 Laurie~~ no Base left to make this oil
451 (B_2) 70
452 (B_2) 70 + 1 Ricci
453 (B_2) 70 + 3 "
454 (B_2) 70 + 1 Par oil
455 (B_2) 70 + 3 " "
456 (B_2) 70 + 1 Pyri
457 (B_2) 70 + 3 "
458 (B_2) 70 + 1 Ser
459 (B_2) 70 + 3 "
460 (B_2) 65 + 6.5 M. Ol.
461 (B_2) 60 + 12 " "
462 (B_2) 50 + 20 " "
463 (B_2) 65 + 5 Cures
464 (B_2) 60 + 10 "
465 (B_2) 50 + 20 "
~~(B_2) 63 + 7 Laurie oil~~ no Base left to make this one
466 B_3 70
467 B_3 70 + 1 Ricci
468 B_3 70 + 3 "
469 B_3 70 + 1 Par. oil
470 B_3 70 + 3 " "
471 B_3 70 + 1 Pyri
472 B_3 70 + 3 "

173 B_3 70 + 1 Nir.
174 B_3 70 + 3 "
175 B_3 65 + 1.5 Mo. Pl.
176 B_3 60 + 12 " "
177 B_3 50 + 20 " "
178 B_3 65 + 5 Cres
179 B_3 60 + 10 "
180 B_3 50 + 20 "
181 (S) 100 + 21 (Pb) + 0.5 (in solution)
182 (S) 100 + 21 (Pb) + 0.5 (in solid)
183 (S) 100 + 21 (Pb) + 1 (in solution)
184 (S) 100 + 21 Pb + 1 (in solid)
186 Car 8 + 72 Yo. Pl.
186 Car 24 + 56 Mo. Pl.
187 Car 40 + 40 Mo. Pl.
~~188 Car 56 + 24 Yo. Pl.~~
~~189 Car 72 + 8 Mo. Pl.~~ did not cast shadows much
198 (B_4) 70
199 (B_4) 70 + 1 Rice
200 (B_4) 70 + 3 [illegible]
201 (B_4) 70 + 1 Parvil
202 (B_4) 70 + 3 [illegible]
203 (B_4) 70 + 1 Rice
204 (B_4) 70 + 3 [illegible]
205 (B_4) 70 + 1 Nir

Stearate bases:

No. 1 400 g + 260 $NaCl_3$ + 12 mg. Hel

No. 2 400 g + 520 " + "

No. 3 " + 1000 " + 1

176 B_u 70 + 3 Nic.

177 B_u 65 + 6.5 Ni. Of.

178 B_u 60 + 12 " "

179 B_u 50 + 20 " "

180 B_u 65 + 5 Ceres

181 B_u 60 + 10 "

~~182 B_u 50 + 20~~ not enough to make a cast

182 B_s 70

183 B_s 70 + 1 Ric

184 B_s 70 + 3

185 B_s 70 + 1 Pur. ric

186 B_s 70 + 3 " "

187 B_s 70 + 1 Pyri

188 B_s 70 + 3 "

189 B_s 70 + 1 Ser

190 B_s 70 + 3 "

191 B_s 65 + 6.5 Ni. Of.

192 B_s 60 + 12 " "

193 B_s 50 + 20 " "

194 B_s 65 + 5 Ceres

195 B_s 60 + 10 "

196 B_s 50 + 20 "

197 B_s 63 + 7 Lauric acid

5 Reg. white ointment by M. A. R. Solution

9 Na-Stearate base No. 1 with alcohol

520. Na-5t base No.1 few bubbles
521. Same as 520, still fewer ± bubbles.
522. Na 5 base No.1 with excess of H_2O
523 " " No2.
524 " " " with some alcohol
525 Same as 524
526 " "
527 Na5 base No 1. with considerable alcohol
528 Same as 527.
529 " " "
530 " " "
~~531~~ " " "
531 Na5 base No 1. with considerable alcohol
532 Na5 base No 1., bottlings, many bubbles.
533 $\frac{No\,1}{8}$ A
534 $\frac{No\,1}{8}$ B
535 $\frac{No\,1}{8}$ C.
536 $\frac{No\,2}{5}$ A

537. No. 2/5 B

538. No 2/5 C

539. No. 1/10 A

540 No. 1/10 B

541 No. 1/10 C

542 No. 3/1 A

543 No. 3/1 B

544 No. 3/1 C

545 No. 3/1 D chicken

a = 18 base + 2 $\bar{S}$; b = 16 base + 4 $\bar{S}$; c = 14 + 6
d = 12 + 8; e = 10 + 10; f = 8 + 12; g = 6 + 14; h = 4 + 16; i = 2 + 18.

Zinc rich bases.

I. 90 g $Zn\bar{S}$ + 10 g $\bar{S}$ + 8 LiOH
too clippy, glassy.

a. Pretty good; high m.p.
b. Slightly worse; much lower m.p.; dry cut, tough
c. N.G.
d. N.G.
e. Crypt. Very good on chilled surface, quite clumpy in.
f. Much worse.
g. Rough grain, N.G.

II. 50 g $Zn\bar{S}$ + 50 g $\bar{S}$ + 4.0 LiOH
pretty bad. high m.p.

a. Crypt. N.G.
b. N.G.
c. N.G.
d. N.G.
e. N.G.
f. N.G.
g. N.G.
h. N.G.
i. N.G.

III. 10 g. MnO_2 + 90 S + 7.5 LiOH
N. C. (brown, powdery!)

a. N. G.
i. ec

Mg & Li bases.

I. 90 $\bar{S}$ + 10 MgS + 7.5 $LiOH$
a, b, + c N. G. N. G.

II. 80 $\bar{S}$ + 20 MgS + 6.5 Li
N. G.
a. Chalky surface pretty good
b. N. G.
c + c, N. G.

III. 70 $\bar{5}$ + 30 Mg 5 + 6 Li OH
OK.

IV. 60 $\bar{5}$ + 40 Mg $\bar{5}$ + 5 Li OH
~~Blanket chipp~~ OK.

a. Cupel(?) not very good.
b. worse
c. well G.

V. 50 S + 50 Mg S + 4 Li
O.K.

a. O.K.
b. not quite so good
c. c. c. N. G

Transfer of No. IV

VI. 40 S + 60 Mg S + 3.5 Li
glassy, much worse
~~a. Excellent~~

a. Excellent
b. good
c. much worse
d. c. c. N. G

a. Perfectly transp., chipp
b. Semi- " , excellent pain, chipp
c. Excellent
d. Cryst., c. c. N. G

VII. 30 S̄ + 70 MgS̄ + 2.5 Li
Good fracture, glassy, chippy

a. Glassy, chippy
b. Rough grain, chippy
c. N.G.
d. Excellent chilling surface
c+c. N.G.

VIII. 20 S̄ + 80 MgS̄ + 1.5 Li
Good fracture, glassy, chippy

a. Same
b. Worse grain
c+c. N.G.

IX. 105 + 90 MgS + .8 LiOH
Hard, chippy, good practice

a. Same
b. Transparent, attractive form
c. Excellent chilled surface
d. Excellent
e. Excellent (cont.)
f. Not quite as good
g. N. R.

546) 150 reg. ns. + 1.5 No 1 Dope
547) 150 " " + 3 " " "
548) 150 " " + 4.5 " " "
549) 150 " " + 6 " " "
550) 150 " " + 7.5 " " "
551) 150 " " + 15 " " "
552) 150 " " + 30 " " "
553) 150 " " + 50 " " "
554) 150 " " + 1.5 No 2 Dope
555) 150 " " + 3 " " "
556) 150 " " + 4.5 " " "
557) 150 " " + 6 " " "
558) 150 " " + 7.5 " " "
559) 150 " " + 15 " " "
560) 150 " " + 1.5 No 3 Dope
561) 150 " " + 3 " " "
562) 150 " " + 4.5 " " "
563) 150 " " + 6 " " "
564) 150 " " + 7.5 " " "
565) 150 " " + 15 " " "
566) 150 " " + 30 " " "
567) 150 " " + 50 " " "
568) 90 (11) + 10 L.R.
569) 80 " + 20 " "
570) 70 " + 30 " "
571) 60 " + 40 " "

572 50 (11) + 50 L.R.
573
574
575
576
577
578
579
580

[ITEM FOUND IN BOOK]

~~Dont~~

130 Dont jump out good qual. Scratches bad
40 jumps out little " "
X 30 Very loud dont jump out. Crackles + scratch
DR — scratches more than 27-1/2 as loud as X30
80 Scratches bad 3/4 of loud of X30
110 " " "
100-15 Gauss what wire jumps out Dont scratch very much
120 — Dont jump out, loud Scratches bad
29 R — not loud jumps out, scratch not quiet,
50 — Dont jump out "
13 R — Very much less scratch than 27-as fact scarcely hear it — its not loud
AR Very little scratch jumps out little not quite so loud as 27

[ITEM FOUND IN BOOK]

140/65°

[illegible] Jumped out, [illegible] 27/60°

[illegible] Jumped [illegible]

[illegible]

21 Scratch [illegible] 27/60/140, jumped out [illegible]

24 Jumped out, [illegible] Scratch [illegible]

27 Scratch [illegible] 27/60/140

BR Scratch about same as 27/60/140 apparently no jumping out.

[ITEM FOUND IN BOOK]

[illegible] 120° Angle 60° [illegible]

[illegible]

[illegible]

31 Bumps

34. Qual. good, [illegible]

26 Bumps [illegible]

140° Angle 60°

13. No scratch, [illegible] qual. poor

27 Qual. good, slight continuous scratch, jumps out, probably wants lighter temp.

21. Scratch a little less than 27 R.
Qual. not so good, because jumped out more.

26. Qual. no good, jumps out, qual. Scratch about same as 27

24. Jumps out, scratches more than 27

[ITEM FOUND IN BOOK]

28 Jumps out, scratches more than 27

30XE Good qual., crucible & gouged more than 27

40E ~~Too~~ Same as 30X

130E Qual. good, scratches very much more than 27.

BE Scratches about same as 27; but not so bad

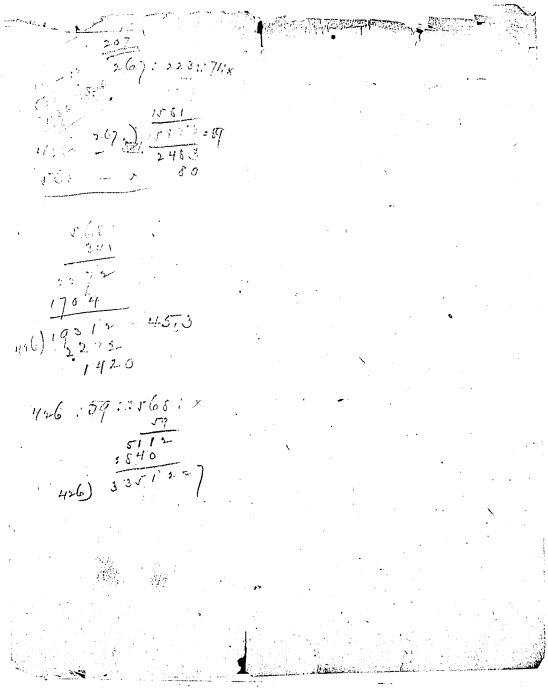
DR Scratches more than 27, jumps out, but not so bad

110E Scratches more than 27.

*40X Smooth under microscope. Scratch about same as 27; not so bad.

[ITEM FOUND IN BOOK]

[ON BACK OF PRECEDING PAGE]



[ITEM FOUND IN BOOK]

Trip No. Aug 60 3.

6 Seam [illegible] R [illegible]

70 E Scratches [illegible]

120 E [illegible]

50 E [illegible] jumping out, scratches, [illegible]
[illegible] than 2

100 E Seam [illegible] 70 E

90 E Terrible scratches, n.g.

~~Scratches~~

29 R Less scratch than 2, not so long, not deep

AR Jumping out. Scratches slightly more than 2

[ITEM FOUND IN BOOK]

Bert,

Filter your S through linen before putting in the PbO. You may receive the filters S on perfectly clean plates, then clean the pot carefully, ~~on~~ melt up the filters S in it, and add the PbO. Don't superheat.

M. A. R.

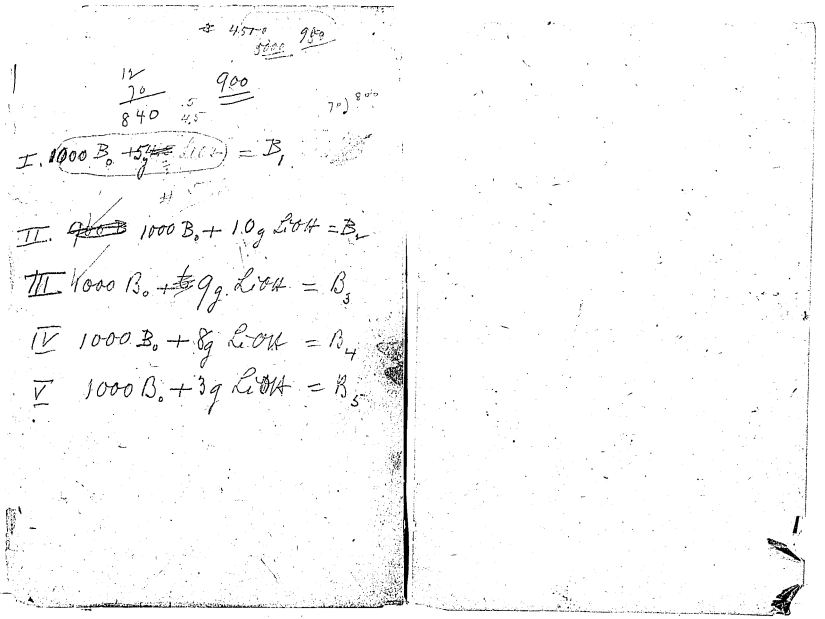
and temp

15 R—

Same as 19—

[ITEM FOUND IN BOOK]

[ON BACK OF PRECEDING PAGE]



I. $1000\ B_0 + 5\ g\ LiOH = B_1$

II. $1000\ B_0 + 1.0\ g\ LiOH = B_2$

III. $1000\ B_0 + 9\ g\ LiOH = B_3$

IV. $1000\ B_0 + 8\ g\ LiOH = B_4$

V. $1000\ B_0 + 3\ g\ LiOH = B_5$

[ITEM FOUND IN BOOK]

17 R and temp
Spongy one side - jumps out
Chips showed 62 even
& taken 120 temp -

and temp -
20 R -
Chips oil 60 -
Wants 120 abt -

[ITEM FOUND IN BOOK]

Ord Temp –

19 R

Quality good –
Chips badly – one side
spongy – wants to be
taken 110 to 130 –
while pumped under Micro
dont sound so –
Can be improved by
getting it even –

18 R 75 deg
ord Temp

One side spongy –
Slightly too dragy
If got even & not spongy
on one side & not quite
so dragy it would be
good – Cant take at
higher temp than
normal –

[ITEM FOUND IN BOOK]

125 Temp

17R = Scratches

Dont see why - good time

Loudness not so good

16R

125 Temp

19R - Chipped out

wants slight reflining

for 125 Temp

[ITEM FOUND IN BOOK]

Good, chips out, 16R to be taken at 120°F.

[ITEM FOUND IN BOOK]

125 Temp

15 R = one side chipped out – Can't tell ~~abt~~ scratch – it wants a little softening for 125 Temp

16 A is good 125

no scratch to amount to anything – its tracked deep & does not chip but jumps out, the only question is Can it be tracked deep enough to prevent jumping out without chipping or scratching – I think it Can – Re try at 130 Temp

[ITEM FOUND IN BOOK]

125 Temp

20 R – good – not quite
so good as 16 R – spongy
one side – not jumped out
so much as 16 R –

[ITEM FOUND IN BOOK]

129

Oils chipped out
probably wants 140
to stop it - shiny —
chipping out makes it
varnish Qual good —
jumps out - wants higher
temperature — 140 @ 145 or higher
so Cam track deeper would
chipping —

14 R - jumped 6 mil —
fred says [illegible]
no chip out polished
modulation
jumped out to 6 mil
to reproduce - should be
taken over again

[ITEM FOUND IN BOOK]

[ON BACK OF PRECEDING PAGE]

66 — 60
46 — x

66) 2760 (42
120

46

[ITEM FOUND IN BOOK]

129 —

No 11 R.

Seems to be chipped out

looks funny

Jumped out — no efflorescing

Cylinder good —

good — very little scratch

although decard Rough —

if this could be got rid

of it would be very good —

it is chipped in bottom of slots

probably wants 140 deg —

A Note on the Sources

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END

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